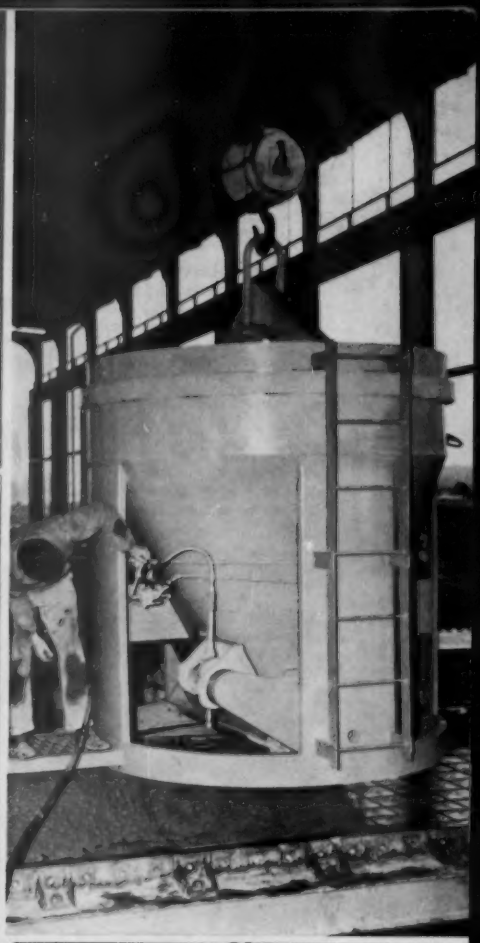
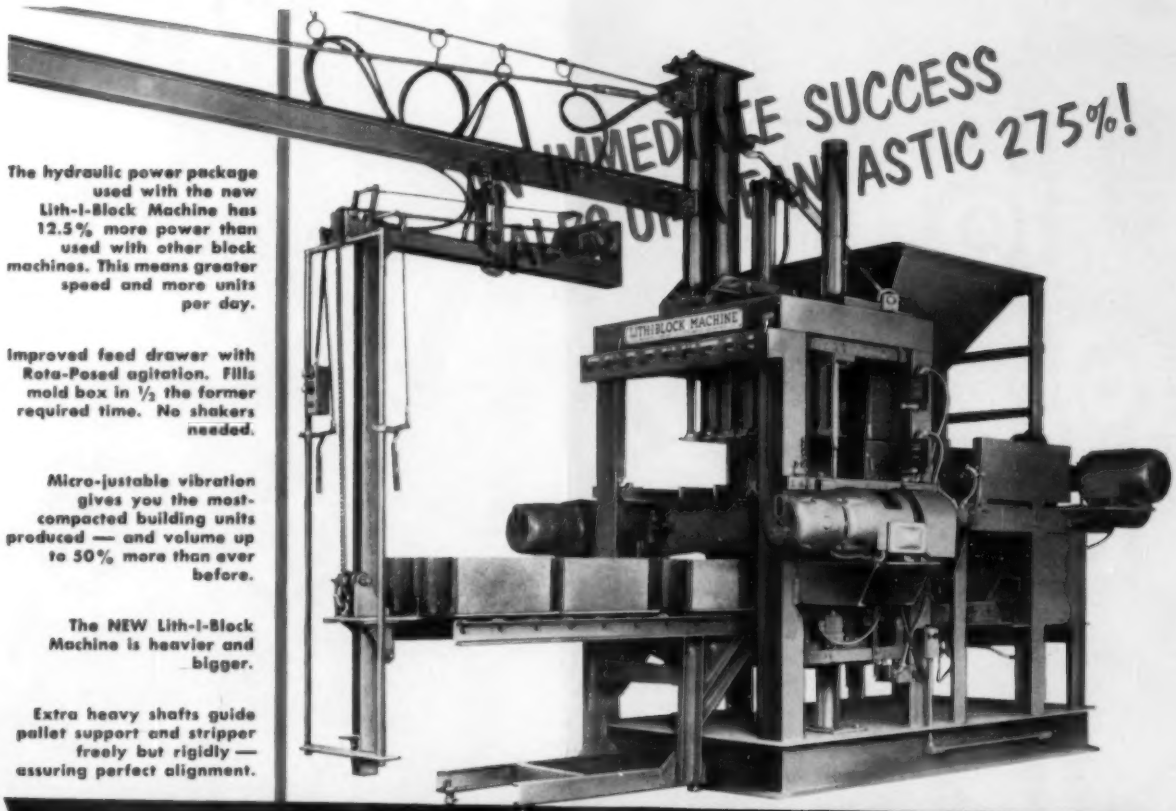
CONCRETE



OUR 52ND YEAR

Serving the Concrete Industries

APRIL 1956



The hydraulic power package used with the new Lith-I-Block Machine has 12.5% more power than used with other block machines. This means greater speed and more units per day.

Improved feed drawer with Rota-Posed agitation. Fills mold box in ⅓ the former required time. No shakers needed.

Micro-justable vibration gives you the most-compacted building units produced — and volume up to 50% more than ever before.

The NEW Lith-I-Block Machine is heavier and bigger.

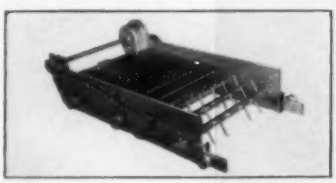
Extra heavy shafts guide pallet support and stripper freely but rigidly — assuring perfect alignment.

GO MODERN — GO LITH-I-BLOCK

Redesigned Lith-I-Block Machines have increased output — up to 1000 blocks per hour.

LITH-I-BLOCK "Greater Production Machines"

NOW... HYDRAULICALLY or AIR POWERED



ROTA-POSED® AGITATION — provided by three heavy-duty rotating shafts with interlocking fingers

MICRO-JUSTABLE® VIBRATION — vibrator weights are adjustable to any vibration intensity desired.

BONUS QUALITY
LITH-I-BLOCK
MADE ONLY ON THE LITH-I-BLOCK MACHINE

*THE BLOCK MACHINE WITH THE **PROVEN FEATURES** MOST WANTED BY BLOCK PRODUCERS*

SALES AND SERVICE THE WORLD OVER

LITH-I-BAR COMPANY

HOLLAND · MICHIGAN

ONE PIECE OF EQUIPMENT OR A COMPLETE PLANT LAYOUT

LITH-I-BAR CO. HOLLAND, MICH.

Send me latest bulletins on Lith-I-Block Machine.

NAME_____ TITLE_____

COMPANY_____

ADDRESS_____

CITY & STATE_____

THE BUSINESS END OF THIS MIXER

Really Means Business!

TRANSCRETE®

- Pours ordinary 4 to 6 inch slump concrete at the rate of a yard every 10 to 12 seconds—1 to 2 inch slump concrete at the rate of a yard every 25 to 30 seconds. THAT'S REAL MONEY-MAKING PERFORMANCE!
- *Exclusive TRANSCRETE hopper swings in for charging—swings out for discharge—so concrete can come through big UNOBSTRUCTED opening in full, easily controlled stream.*
- The handiest, simplest chute arrangement of all! Easier to handle on any kind of pour—no matter how tough the job! (Hydraulic spout lift optional equipment)
- *America's only truck mixer with the CMC FLOATING DRIVE that's guaranteed trouble free. This proven drive eliminates all the troubles of ordinary rigid drives—your assurance that TRANSCRETE will be on the job every day—year in year out.*

- Take TRANSCRETE'S many time-tested, proven features—add to them the NEW 75" diameter drum head and 16° slope FOR SHORTER OVERALL LENGTH—and it's no wonder TRANSCRETE beats 'em all a country mile for pouring more and better concrete—easier, faster—and at less cost!

There's a size TRANSCRETE (4 models, from 3½ to 7 yard mixing capacities) to do any job in the book. Get full details today. Write CONSTRUCTION MACHINERY COMPANY, Waterloo, Iowa.

NEW... FREE

Just-off-the-Press

1956 TRANSCRETE TRUCK MIXER CATALOG

Completely illustrated. Lots of action pictures. Shows all the great TRANSCRETE features. WRITE FOR YOUR COPY TODAY.

CONSTRUCTION MACHINERY CO.

WATERLOO, IOWA

2% of LOSORB

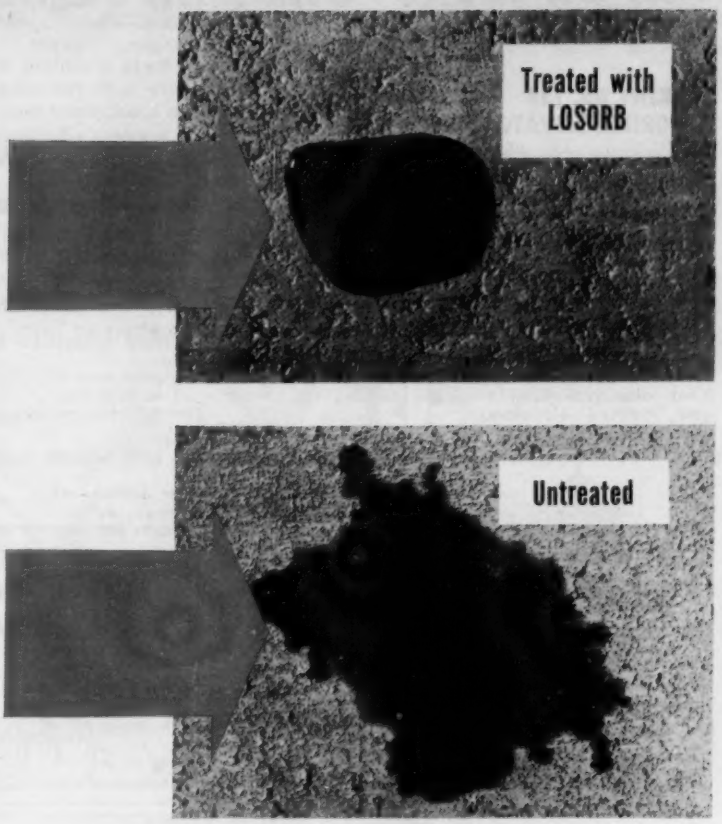
means this

instead of

this

when added to

concrete mix



Moisture-proofing of concrete blocks and other products is "built-in" when LOSORB is added to the mix. The photographs above show how effectively Losorb prevents penetration of water. Both blocks are identical, except for the addition of a small percentage of Losorb in the treated block.

With walls of Losorb-treated cement block, the inside surfaces may be safely painted without plastering, and without danger of blistering and peeling due to passage of moisture through the blocks. Losorb eliminates the need of waterproofing above grade, reduces construction costs, minimizes crack-frequency, makes mix easier to work, prevents shrinkage of concrete blocks during curing, and provides many other practical, cost-saving advantages.

Write for complete details and instructions on how to use LOSORB. Use the coupon.

Pennsylvania Industrial Chemical Corp.
Clairton, Pennsylvania

Plants at:
Clairton, Pa.; West Elizabeth, Pa.; and Chester, Pa.
Sales Offices
New York, Detroit, Chicago, Boston, Los Angeles
Philadelphia, Pittsburgh, Cincinnati

PENNSYLVANIA INDUSTRIAL CHEMICAL CORP. (C)
Clairton, Penna.

Please send me information on LOSORB.

Name_____
Position_____
Company_____
Address_____

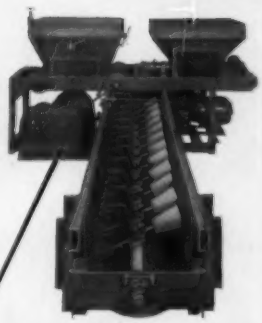
KENT AUTOMATIC *Co-ordinated* UNITS

IN AN IDEAL "ONE MAN" BLOCK MAKING SETUP

Each of these machines is designed to operate with the others in producing a block plant that is the last word in modern efficiency. There is no "lagging" anywhere in the production line.

Furthermore this plant is not only remarkably simple, compact and easy to operate but relatively inexpensive to own and maintain.

Let us prove the truth of these strong statements with facts and figures.



The KENT No. 139 MOTORIZED ELEVATOR

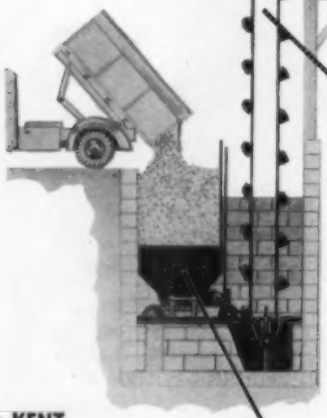
receives material from the feeder and elevates it to the bin.

All parts except the belt are made of metal best suited to the purpose.

A weather-proofed motor drives the belt through V-belts.

All shafts revolve on pressure lubricated anti-friction bearings.

(Kent also makes skip-type inclined elevators, cement elevators, etc.)



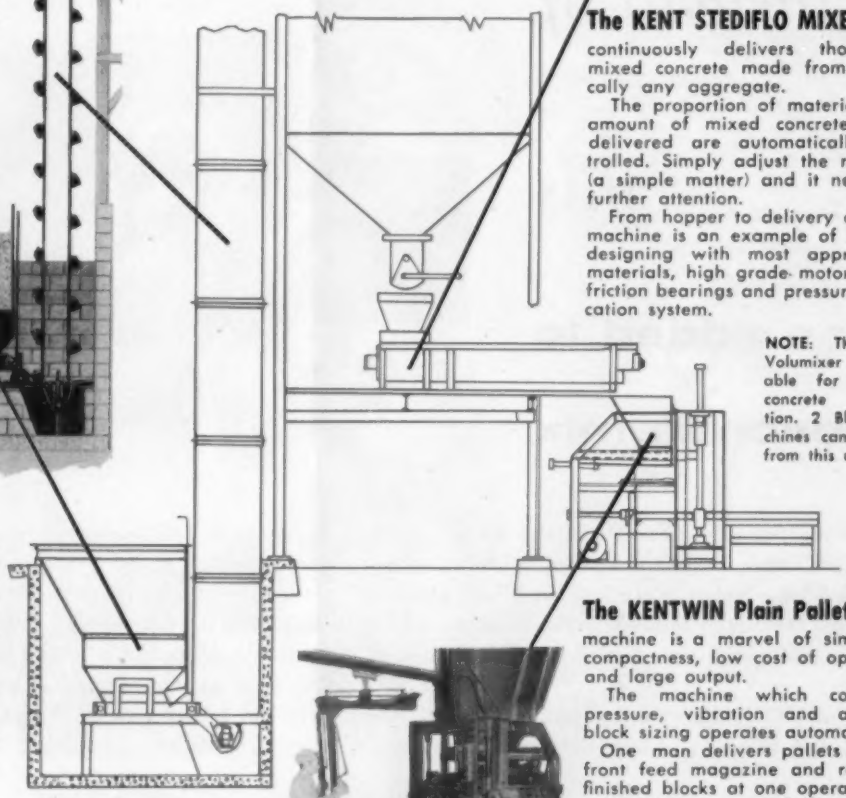
The KENT No. 410 FEEDER

feeds sand, crushed stone, lightweight aggregate, etc., to the elevator from a pit as here shown; or it can be installed under a track to handle material from a car.

It is driven by the elevator motor through the belt.

An adjustable gate governs the amount of material being fed by the long life rubber belt to the elevator.

All shafts revolve on pressure lubricated anti-friction bearings.



Another machine that is bringing extra income to block manufacturers is the KENT LINTELATOR for making lintels and sills. ***Ask about it.***

The KENT STEDIFLO MIXER

continuously delivers thoroughly mixed concrete made from practically any aggregate.

The proportion of materials and amount of mixed concrete being delivered are automatically controlled. Simply adjust the machine (a simple matter) and it needs no further attention.

From hopper to delivery end the machine is an example of modern designing with most appropriate materials, high grade motors, anti-friction bearings and pressure lubrication system.

NOTE: The Kent Volumixer is available for greater concrete production. 2 Block machines can be fed from this unit.

The KENTWIN Plain Pallet Block

machine is a marvel of simplicity, compactness, low cost of operation and large output.

The machine which combines pressure, vibration and accurate block sizing operates automatically.

One man delivers pallets to the front feed magazine and removes finished blocks at one operation.

Machines are available to produce three 8 inch blocks or equivalent per cycle; two 8 inch blocks per cycle or two 10 inch blocks per cycle.

Write for **Literature and Complete Information**

The KENT MACHINE CO.

DIVISION OF THE LAMSON & SESSIONS COMPANY

CUYAHOGA FALLS, OHIO, U. S. A.

Canadian Distributor: Wettlaufer Equipment Ltd., 49 Merion St., Toronto 12, Ontario

Concrete Products Machinery Since 1925

APRIL, 1956

CONCRETE

VOL. 64, No. 4 • EST. 1904 • PUBLISHED MONTHLY BY CONCRETE PUBLISHING CORP. • 400 W. MADISON ST., CHICAGO 6, ILL. • Central 6-8822

FEATURES FOR THIS MONTH

DEPARTMENTS

WILLIAM M. AVERY, Editor
JOSEPH N. BELL, Contributing Editor
DONALD T. PAPINEAU, Publisher
DONALD C. WHITE, Manager Advertising Sales

NBP

Advertising Representatives: Porter Wylie & Co., 114 East 13th St., New York 3, N. Y., Phone: Gramercy 5-3581; Crawford L. Elder, 2500 El Venado Drive, Puente, Calif., Phone: Oxford 44-116; Clarence L. Morton, 294 Washington St., Boston 3, Mass., Phone: Liberty 2-8538. Subscription Price: $4.00 a year in the United States and its possessions. One dollar additional for postage elsewhere. Single copies, 50 cents each. Accepted as controlled circulation publication at Mendota, Ill.

BPA

This is the 130th of a series of ads featuring leaders of the Concrete Products Industry who are stepping up block production with Besser Vibrapac machines.

Another BESSER BOOSTER

Vibrapacs are Preferred because they are *"Recognized as the Best"*

It takes a high quality machine to make a high quality product. That's why Price Brothers of Dayton chose Vibrapac machines. As Mr. Price himself states: "We selected Vibrapacs because they are recognized as the best, nationally."

The first Vibrapac was installed in the Price Brothers plant back in 1945. This machine produced high quality block on a fast production basis and with a minimum of downtime. So when additional equipment was needed in 1951, the company sent in a repeat order for another Vibrapac. Today, the plant is producing 2,500,000 eight inch (or equivalent) units annually.

Price Brothers believe in going after the entire market — block for walls, floors and roofs. Split block is produced under the trade name of STONE-FACE. In addition, batter block for manholes and catch basins are made at the same high rate of production as conventional block. All units are made on Vibrapacs.

BESSER COMPANY • Box 127, Alpena, Mich., U.S.A.
Complete Equipment for Concrete Block Plants

Price Brothers executives, Dayton, Ohio: (left to right) Harry S. Price, Chairman of the Board; Louis E. Kline, Plant Supt.; George W. Patterson, Sales Manager; Victor E. Scott, Block Plant Manager.

(Above) Yard scene at the Price Brothers plant at Dayton. In addition to concrete block, the company also produces pressure pipe and concrete sewer and culvert pipe.

•

(Right) Two Besser Vibrapacs installed at Price Brothers plant. Note batter block produced by machine in foreground. No manual lifting. Off-bearer merely guides the power hoist.

NATIONAL HOUSING CENTER
WASHINGTON, D. C.
(Sponsored by NAHB)

Besser Company maintains a permanent exhibit at the Washington Housing Center. Be sure to visit this fine display of concrete masonry.

BESSER VIBRAPAC

first in concrete block machines

A 8704-1

THE EDITOR'S PAGE

WILLIAM M. AVERY

Molasses Versus Vinegar

EVER since we began to acquire a first hand acquaintance with the ready-mixed-concrete industry, the producers of this versatile material have carried on virtually interminable discussions of the pros and cons of assessing penalties against their customers for truck demurrage. In somewhat the same sense (and for pretty much the same reasons) that nearly everybody is against sin, nearly all ready-mixed concrete producers seem in theory to favor making the customer pay for tieing up costly truck mixers for unreasonably long periods of time.

On the face of it, at least, the problem is a fairly simple one. The producer hasn't the faintest desire to collect for holding time; what he wants, of course, is to get his equipment back in service as quickly as possible. Judging from the many discussions we've heard, holding time charges, even in those rare instances when they've actually been collected, haven't done a great deal to reduce demurrage.

There's obviously something all wrong with the whole philosophy of the practice. It is brought out in sharp relief in most of the discussions we refer to, for almost everybody seems to hedge in one way or another when cornered for a blunt yes or no answer on the question of collecting for holding time. Usually the clearest answer anyone offers is some feeble variation of "Yes, but. . . . .". It's hardly surprising, for even on a seller's market nobody in his right mind goes out of his way to offend the customer—and anyway you look at it, a penalty, regardless of the reason for its assessment, is an offensive thing.

There probably isn't any real solution to the problem, but it seems to us we ought at least to stop kidding ourselves with talk of penalties. Perhaps in the long run it would make better sense to base the charge for a cubic yard of ready-mixed concrete on the presumption that holding time is as inevitable as death and taxes —which we suspect is actually pretty close to being the case. If it outrages our sense of justice to thus in effect penalize the blameless along with the guilty, there could certainly be nothing wrong with making a modest rebate to those thoughtful customers who contrive to return equipment in less than the time used as a basis for computing the original charge.

Whatever might be said against such a system, from a psychological point of view it beats the penalty philosophy at least a country mile. No matter which side of the mixer chute you're on, it just stands to reason that rebates can be discussed on a pleasanter basis than penalties.

INDUSTRY NEWS

Many Building Materials On Shortage List

Even though construction hasn't yet hit its full stride for 1956, the picture is already clouded by shortages and slow deliveries of key construction materials.

Major critical materials are steel, glass, aluminum building sheets, gypsum lath and sheathing, Douglas fir lumber and plywood. Items less critical now but which could become more of a problem later on as demand picks up are cement, copper water tubing, and vitrified clay sewer pipe.

Glass is currently the most widespread problem. Deliveries to Seattle, for instance, take as long as four months. Steel continues to be as tight as in 1955 with structural shapes, reinforcing bars, and sheet piling short in several cities. There are also scattered shortages of other metal products used by the construction industry. Chief among these are aluminum building sheets and stainless steel. December floods in the Northwest disrupted fir lumber production and transportation from the mills, and heavy rains preceding the floods kept loggers out of the woods.

In addition to materials shortages, contractors are also finding that stocks are low and deliveries have slowed for construction equipment. Distributors of excavating and earthmoving equipment in many cities stated deliveries were slower than normal and stocks were short for some types of equipment.

■

Cinder Shortage Rates Headlines

A front-page story in the *Wall Street Journal* takes up the problem of the vanishing cinder, particularly as it applies to the manufacture of lightweight concrete block. The article points out that some producers of cinder units are finding it necessary to reach out hundreds of miles to obtain adequate supplies of a once-despised material that actually presented a serious disposal problem.

The shortage is attributed in part to the growing use of fuels other than coal, and in part to the trend toward the use of coal in pulverized form for industrial purposes.

Ready-Mix Safety Trophy Winners

● Received too late for inclusion in our March report of the annual convention of the National Ready Mixed Concrete Association, the photograph above shows representatives of the four companies that won NRMCA's coveted safety trophies. They are W. S. Walters, Fischer Lime & Cement Company, Memphis, Tennessee; Charles W. Stewart, Stewart & Nuss, Inc., Fresno, California; Herschel T. Moon, Lake Cities Corporation, East Chicago, Indiana; and Richard Longacre, Central Builders Supply Company, Sunbury, Pennsylvania.

Calendar . . .

APRIL 9-10	Texas Concrete Masonry Association — Spring Meeting—Hotel Stephen F. Austin—Austin, Texas
12-14	American Concrete Agricultural Pipe Association—Sixth Annual Convention—Brown Palace Hotel—Denver, Colorado.
13-14	Texas Ready Mixed Concrete Association—Annual Convention—Statler Hilton Hotel—Dallas, Texas.
23-25	Autoclave Building Products Association—50th Annual Convention—Hotel Statler—Detroit, Michigan.
25-27	Western Concrete Pipe Association — Annual Meeting—Hacienda Motel—Fresno, California.
MAY 8-10	Highway Transportation Congress—Sixth Congress—Hotel Mayflower, Washington, D. C.
16-18	Prestressed Concrete Institute—Second Annual Convention — Hollywood Beach Hotel—Hollywood, Florida.
21-22	Building Research Institute—Fifth Annual Meeting—Sheraton-Brock Hotel—Niagara Falls, Ontario, Canada.
28-30	Wire Reinforcement Institute—Annual Spring Meeting—The Greenbrier—White Sulphur Springs, West Virginia.
28-JUNE 2	Concrete Reinforcing Steel Institute—Annual Meeting — Greenbrier Hotel—White Sulphur Springs, West Virginia.
4-7	Material Handling Institute and Material Handling Show—Public Auditorium — Cleveland, Ohio.
17-19	Florida Concrete and Products Association—Annual Convention—Tides Hotel—Redington Beach, St. Petersburg, Florida.
17-22	American Society for Testing Materials—59th Annual Meeting and 12th Apparatus Exhibit—Chalfonte-Hadden Hall—Atlantic City, New Jersey.

VICTOR RICE
Plant Engineer

LOU MILLER
Designing Engineer

MILES DAVIES
Designing Engineer

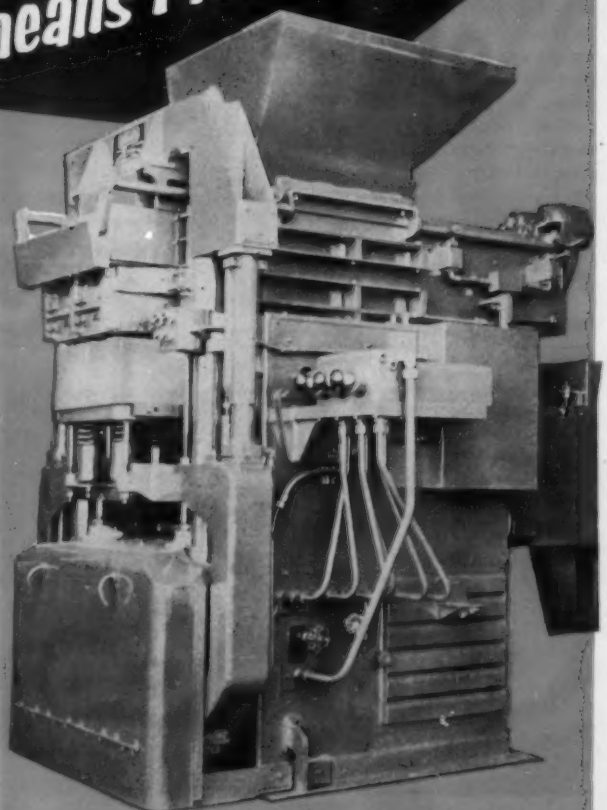
JOE DAVIS
Production Manager

Columbia

UP-TO-THE MINUTE ENGINEERING means Profit to You!

Advanced Features Pay Off In Peak Production

Columbia machines embody the most advanced engineering features available in block-making equipment today... complete hydraulic activation, insuring fast, accurate movements and minimum wear; electronic control, giving the operator pinpoint command of every phase in the block-making cycle; an integrated, automatic system of feeding and pallet handling, cutting labor costs to the bone and raising production to new peaks.



COLUMBIA'S 12″ HIGH...

The industry's first 12″-High machine... fully tested under all operating conditions in hundreds of plants... gives you drain tile, flu liners, Roman and Norman tile, silo staves and other special 12″-high shapes... PLUS all standard 8 and 4-inch high block. Operates at 4 to 6 cycles per minute using standard 18″ x 20″ plain pallets, or 18½″ x 26″ pallets.

District Offices in: Illinois, Massachusetts, Wisconsin, Ohio, South Carolina, Mississippi, Florida, California, New Jersey, Virginia, Montreal, Que., Vancouver, B. C.

Write today for catalog and complete information on the Columbia line.

Columbia MACHINE

Home Office: 107 S. GRAND, VANCOUVER, WASHINGTON

Factory Branch and Warehouse: Mattoon, Illinois

Think Safety Rules Are Bunk? Here's One That Paid Off

An employee of a concrete block firm had a narrow squeek with death recently when he was trapped in a cinder storage bin for almost two hours. Since this type of exposure is fairly common in concrete products plants, other producers might be well advised to read the details with a view to adopting at least those minimum precautionary measures which in this instance almost certainly averted a fatal accident.

The worker in question was in the silo-like structure attempting to dislodge semi-frozen cinders when the accident occurred. A sudden slide buried him under about three feet of the material, but fortunately he was working in accordance with a company safety rule that requires a second man to be stationed above whenever this type of work has to be done. The safety man, and another employee who was working in the area, were able to dig the material clear of the victim's head, and to protect him from further slides by means of an empty oil drum from which the ends were removed. Meanwhile other workers, assisted by firemen who were summoned to administer first aid, cut holes in the base of the bin to permit the cinders to run out on the ground. It was almost two hours after the original slide took place before the man was freed.

There is reasonably good evidence that the workman involved in this almost-fatal accident was wearing a safety line, but the material slide took place so rapidly that he had no opportunity to pull himself clear. While the incident is in no sense at all an indictment of safety lines, it surely provides an eloquent endorsement of the basic safety rule that men never work alone under such hazardous conditions. In this case the observance of a sound safety rule unquestionably saved a man's life.

■

Cinder Block of Detroit Installs Six Autoclaves

Another major concrete block producer, Cinder Block, Inc., Detroit, Michigan, has joined the ranks of firms equipped for autoclave curing. The installation comprises six cylinders, each 10 feet in diameter by 86 feet in length, and weighing approximately 60 tons.

Each cylinder holds 2,700 units and operates on two complete curing cycles per day, giving the plant a curing capacity of 32,000 units per day.

"We feel," said Walter H. Horn, president of the company, "that a major project of this type is more than justified by the improvement it will bring in the product we will be able to offer architects and contractors. There is no question but that we now have available for use in Detroit area building construction the finest lightweight concrete masonry units that can be produced."

The entire project, including the construction of two completely new plant buildings, was carried out at a cost of more than $500,000. The new curing building includes a modern production-control laboratory, where constant testing with modern equipment insures the consistent output of units of maximum quality.

Everybody's Business

CONSTRUCTION

• Construction activity, probably the most important element in the current economic boom, shows every promise of being better this spring than it was a year ago, when it was at a record level. Contract awards for the 37 states east of the Rockies showed a two-month total for January and February of $3.7 billion, a 21-per cent gain over the first two months of 1955. Contracts for heavy engineering work were up 69 per cent, and all other non-residential contracts were up 17 per cent. Even in the residential category, where the outlook has been persistently gloomy, contract awards for January and February were 6 per cent above the high level set a year ago.

• Another shot in the arm for the building field was provided by a Commerce Department survey which indicates that businessmen plan to shell out a record $35 billion for new plants and equipment this year. This would be 22 per cent above the record $28.7 billion spent for similar purposes last year. The same survey shows that businessmen in every major industry group expect 1956 sales to top 1955 totals. Manufacturers look for a 6 per cent increase; trade firms expect sales to be 4 per cent higher; and public utilities expect a 9 per cent rise.

BAROMETERS

• During the early months of 1956 the output of goods and services set a new record, surpassing $400 billion for the first time in history. A slack-off in automobile production and new housing construction in January and February (as distinguished from contract awards) was more than offset by increased output in the steel, aircraft, machinery and other heavy industries.

• Consumers seem to be spending their record-breaking incomes at a record-breaking rate. Not only is spending going on at a rate seldom seen in the early months of a new year, but borrowing seems to be on the upgrade, too.

• As if all this weren't enough, the economy is due for another boost as a result of the $1-an-hour minimum wage law. Starting March 1, some 2,100,000 American workers got a $5-a-week wage increase when the new law went into effect. It is estimated that this change will put about $560 million of new income into circulation at the lower level of the working force, more than half of it in the south.

LABOR

• It is believed that steel labor is putting together one of the costliest wage programs it has ever presented. Major objectives will include a guaranteed annual wage, an hourly pay increase, and premium rates for Saturday and Sunday work. Indications are that the demands for wage increases and fringe benefits may total between 20 and 30 cents per hour.

• A recent Bureau of Labor Statistics report shows that the growth of organized labor in recent years has been somewhat less than spectacular. From the end of 1951 to the beginning of 1955, United States unions signed up little more than 1 million members, and about 20 per cent of this modest gain took place among their Canadian affiliates. According to the Government report, the approximately 18 million workers now on union rosters comprise about 25 per cent of the nation's total labor force. They accounted for 22 per cent of the total labor force in 1945 and only 7 per cent in 1930.

• Figures released by the Chamber of Commerce of the United States show that American business has created close to 9 million new jobs since World War II. The figure covers all industries except agriculture, and also excludes Government jobs. During the same period of time the number of persons of working age also increased by about 9 million.

British Try Out Prestressed Concrete Roads

Experience in the use of prestressed concrete for highways in Great Britain is summarized in an article published recently by the Institution of Civil Engineers, a British organization. The article states that most of the roads built to date have been of the individual slab type. The suggestion is advanced, however, that continuous type pavements may eventually be widely used for fairly straight and level lengths of road with uniform upgrades, in combination with the individual slab type on curves and non-uniform subgrades.

The reduction of subgrade restraint is mentioned as one of the most urgent problems awaiting solution, since the stresses resulting from such restraint may be sufficient to neutralize the prestress, at least in some measure. At the present stage of development slab lengths greater than about 400 feet appear to be impractical.

The article indicates that the cost of prestressed concrete roads is about the same as for orthodox designs.

■

Claims Florida Leads In Use of Concrete Block

According to Paul Lenchuk, executive secretary of the Florida Concrete & Products Association, the state of Florida led the entire nation last year in the use of concrete masonry units. Mr. Lenchuk believes that over 200 million units were laid in 1955, and he states that the concrete industry in Florida currently has capital assets of over $75 million and has an annual payroll of over $30 million which is paid out to some 10,000 employees.

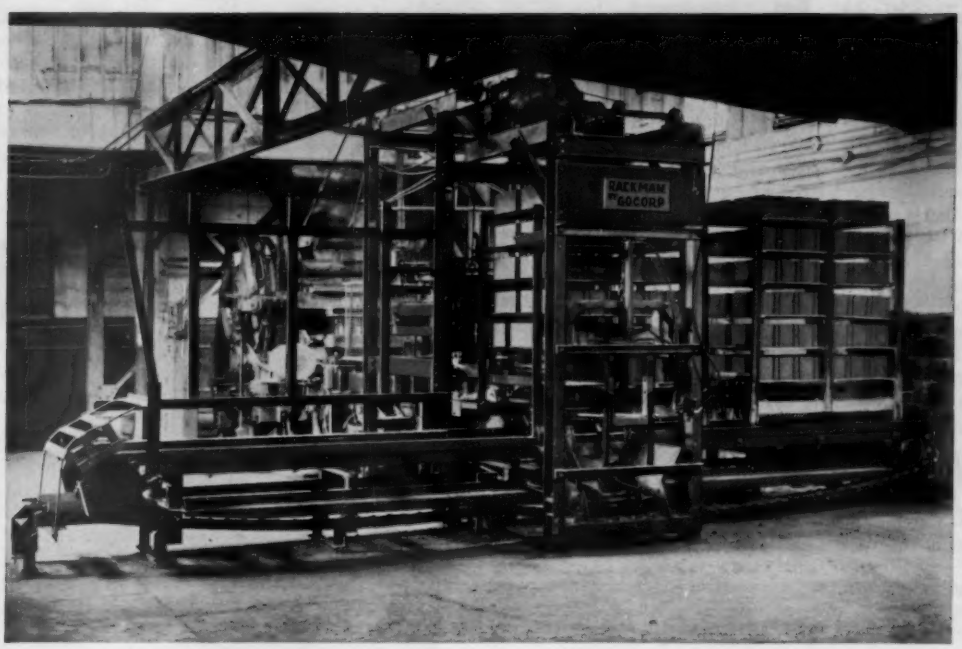
Mr. Lenchuk estimates Florida's 1955 output of ready-mixed concrete at approximately 6 million cubic yards, and the total use of portland cement for the year at around 11 million barrels.

■

Double Output of Kentucky Lightweight Plant

Kentucky Light Aggregates, Inc., of Louisville, Kentucky, has started operation of a second rotary kiln for the production of Kenlite an expanded shale aggregate. The material is used to make lightweight concrete block and lightweight structural concrete.

NOW AN AUTOMATIC RACK LOADING DEVICE . . . FOR YOUR BLOCK MACHINE!



*RACKMAN by GOCORP

RACKMAN AUTOMATICALLY removes green blocks from your block machine and indexes them gently onto the decks of the rack.

RACKMAN AUTOMATICALLY removes empty pallets and returns them to your block machine front pallet feeder. Automatic front pallet feeder may be added as an optional extra with RACKMAN.

RACKMAN AUTOMATICALLY shifts racks. Your lift truck operator merely places racks with empty pallets on conveyor and removes loaded racks.

RACKMAN AUTOMATICALLY removes cured blocks, *if you wish.* With additional equipment, RACKMAN will automatically remove pallets of cured blocks and convey them to your cubing station as it indexes green blocks into the rack. Empty pallets return automatically to the block machine.

CONTINUOUS AUTO-OPERATION is provided by RACKMAN keyed directly to the cycle of your block machine. Increases daily production.

AVAILABLE NOW for use with most high-production plain pallet block machines.

NO PITS REQUIRED—RACKMAN is entirely above the floor.

MOST PLANTS have ample room for installation.

TESTED AND PROVED in actual plant installations.

*Trademark—Pat's Pending

WRITE TODAY FOR DESCRIPTIVE LITERATURE AND COMPLETE INFORMATION

OTHER COST CUTTING GOCORP EQUIPMENT

Concrete Block Machines both plain and cored pallet types • Batch Mixers—12-75 cu. ft. • Block Cubers • Skip Loaders—to match mixers • Magnetic Offbearing Hoists • Other Supporting Equipment

GOCORP
ADRIAN-MICH.

405 Grace Street Adrian, Michigan

[illegible] IN THE SPECS

Out Of This World

Finding new and more glamorous locations for conventions is really getting to be quite a challenging problem. We attended the annual meeting of the Ohio Concrete Block Association several weeks ago, and heard the chairman of the group announce that invitations were already on hand to hold the 1957 convention in Nassau, Honolulu and Miami. If state associations get traveling around in orbits large enough to cover such widely separated points, the national groups are going to be compelled to do their planning on at least an intercontinental basis.

Or maybe they might just as well start negotiations right now for accommodations on some of the nearer planets. You might argue, of course, that this wouldn't exactly result in our putting our best foot forward for the benefit of our neighbors in space, but on the other hand they might just as well see us at our worst right off the bat.

Puzzle With A Moral

One of our more studious readers sends us an interesting variation of a puzzle involving combinatorial relationships which appeared originally in "The Design of Experiments" by R. A. Fisher. Our correspondent points out that it is a puzzle with a moral, which is a lot more than you can say for a good share of the problems that baffle our species. Anyhow, here 'tis:

Four companies decide that they should study some of the factors believed responsible for variations in test results and performance of concrete block made at their plants. They discuss and finally decide on four factors to study: brand of cement, type of aggregate, amount of cement, and temperature of curing. They study these variables as they affect their respective operations and conclude that they should test block made with four different brands of cement, four different kinds of aggregate, four different cement factors and cured at four different temperatures. They then agree that as a bare minimum there ought to be at least six block alike to average for a test, and that some block of each type should be made at each plant. Then,

having gotten good agreement on what the tests should consist of, they began to count up what was involved: 6 block X 4 companies X 4 cements X 4 aggregates X 4 cement factors X 4 curing temperatures = 6,144 block!!

At this point two of the smaller companies were ready to pull out—saying that they were not in a position to contribute 1536 block each. So the laboratory man for one of the companies (who had taken some statistics back in college when he thought he was going into agriculture or the study of butterflies or something of the sort) suggested that each company make only 16 block—or a grand total of 64; instead of 6,144; and get just as much, if not more, information. Further each company would make four identical block of each of four kinds, each company would use each cement, each aggregate, each cement factor, and each curing temperature. Since block would be made in groups of four identical block, each combination of conditions would be represented by an average of tests of four identical block. How can this be done with only 64 block instead of 6,144?

May I Have The Next Gripe?

We've just learned that a New York concern has published a booklet on griping procedures for distribution to its employees. We haven't latched onto a copy, but we understand that it attempts to establish orderly processes by means of which employees may unload their gripes about the company. Sort of like scheduling a boxing match with your wife instead of having a spat?

4 trucks or 40

2-way radio means more profit for any size fleet!

If you've thought 2-way radio was only good for the big ready-mix operator with dozens of trucks—take a look around. Some of the most enthusiastic radio users have fleets of fewer than 10 mixers.

It isn't the number—it's the *efficiency* that tells the profit story. Radio dispatching helps you run trucks at peak productivity by trimming out the wasted miles and minutes.

Check these ways a Motorola 2-way radio communication system can save you money and bring in new business:

- ***By rerouting mixers, when necessary, to alternate customers—on short notice, while trucks are en route.***
- ***By freeing your heavy trucks from partial loads.***
- ***By releasing pre-mix plant crews immediately following the day's final pour.***
- ***By slashing down-time on disabled mixers through speedy repairs.***
- ***By giving better service to contractor customers via radio relay of instructions.***
- ***By eliminating all telephone calls from drivers.***

When you are buying radio, you'll soon see why ready-mix companies choose Motorola *more often* than all others *combined*. One big reason is that it's built for rugged use—designed to *outlast* several trucks. Let a Motorola Engineer show you the many other reasons why Motorola tops the field. He'll also show you how Motorola 2-way radio will quickly pay for itself by cutting costs . . . then go on to earn extra profits for you every year. Write, phone, or wire TODAY.

MOTOROLA

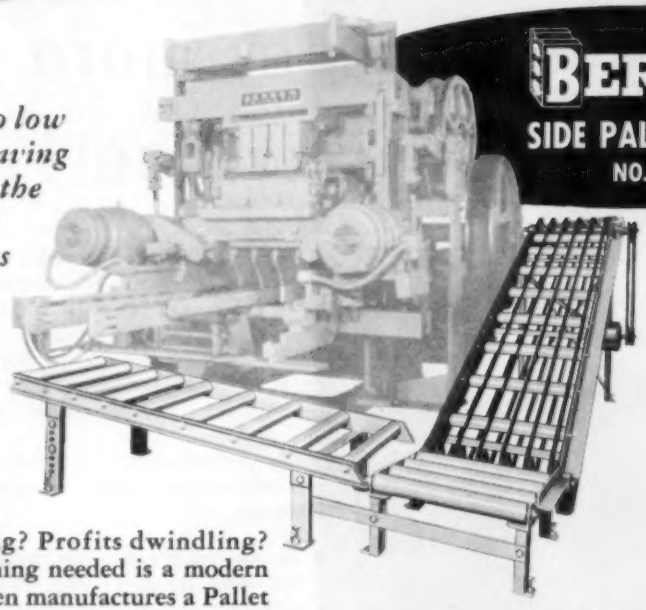
2-WAY RADIO

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC.
A SUBSIDIARY OF MOTOROLA, INC.
4501 AUGUSTA BOULEVARD • CHICAGO 51, ILLINOIS
ROGERS MAJESTIC ELECTRONICS LTD. TORONTO, CANADA

Motorola consistently supplies more mobile and portable radio than all others combined.
Proof of acceptance, experience and quality.
The only COMPLETE radio communications service—specialized engineering . . . product . . . customer service . . . parts . . . installation . . . maintenance . . . finance . . . lease.
"The best costs you less—specify Motorola."

LOW-COST MODERNIZATION for OLDER MACHINES that *QUICKLY* PAYS FOR ITSELF

Budget-priced so low that labor-cost saving can easily repay the investment in as little as 5 months



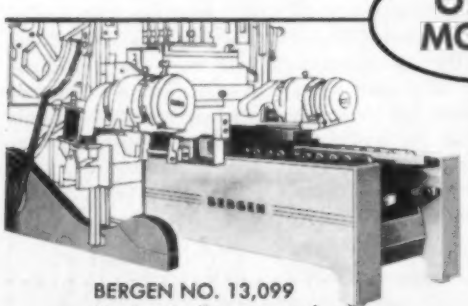
BERGEN
SIDE PALLET FEEDER
NO. 13,000

Production lagging? Profits dwindling? Perhaps the only thing needed is a modern Pallet Feeder. Bergen manufactures a Pallet Feeder to meet every need. Many block plant owners who prefer a side pallet feeder will find all the requirements of high efficiency and economy in the Bergen Side Pallet Feeder.

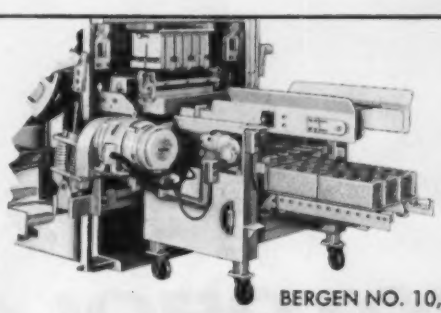
Here are some of the features!

- Low initial cost
- Simple, trouble-free operation
- Finest quality ball-bearing rollers used throughout
- Individual, long-life V-belt conveyor
- Adjustable legs offer a variety of height positions
- Easily installed . . . no major alterations necessary
- Quickly detached to facilitate block machine repairs or cleaning

OTHER MODELS



BERGEN NO. 13,099
Mechanically-operated
Underneath FRONT PALLET FEEDER



BERGEN NO. 10,000
Hydraulically-operated FRONT PALLET FEEDER

BERGEN
MACHINE & TOOL CO., INC.

Write or call Bergen "Collect" for complete details.

NUTLEY, N. J.

Phone: NUTLEY (N.J.) 2-7300

From Famine to Feast? Cement Makers Edgy About Possible Glut

In the midst of its greatest expansion effort in more than a quarter of a century, the American cement industry is beginning to have qualms about the demand for its product keeping abreast with production. Cautious expansion of facilities over the past five years has increased capacity to the present level of approximately 315 million barrels annually. If present expansion plans and new construction is carried out this year, it is believed that the industry will wind up 1956 with an annual capacity of about 370 million barrels.

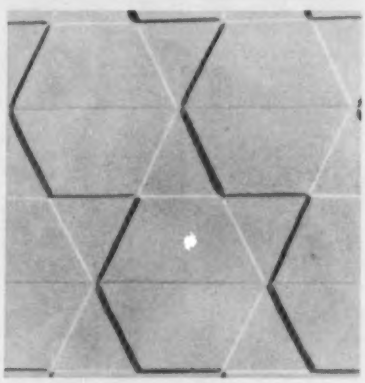
There are those in the cement industry who contend that the huge expansion now in progress was designed primarily to remedy cement shortages which have never been more than spotty, localized affairs. Some who hold this view believe that costly transportation is actually the major problem. Cement officials are still haunted by the grim memory of expensive mills abandoned or running at half time throughout the 1930's. Even as recently as 1944 the nation's cement kilns were running at only 37 per cent of capacity.

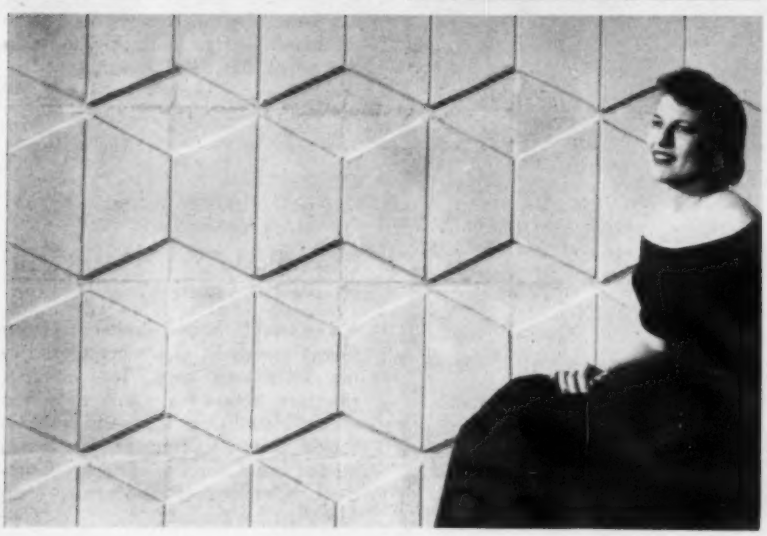
■

Wisconsin Ready-Mix Assn. Meets at Milwaukee

The sixth annual meeting of the Ready Mixed Concrete Association of Wisconsin, Inc., was held at Milwaukee, March 12-14. Major topics covered by the three-day gathering included a discussion of a cooperative program for promoting ready-mixed concrete for city street paving, and a panel session of industry problems.

Members of the group were informed that there are now 79 active members and 20 associates. Warren P. Knowles, lieutenant governor of the state, addressed the group's annual luncheon.





Want Better Trained Men? Here's One Approach

Material Service Corporation, a large scale Chicago producer of ready-mixed concrete, has launched an extensive quality training program for its employees. According to Irving Crown, executive vice president of the company, more than 100 key employees have already completed the course. Much of the instruction is offered by personnel of the Portland Cement Association.

■

Special Memorandum To Friends of John Shaver

John W. Shaver, for many years editor of CONCRETE magazine, is recovering at his home near Vaughn, Washington, from a long illness. We understand that John would not only enjoy hearing from some of his many friends in the concrete industry, but that such messages could actually be an important factor in speeding his recovery. His address is simply Vaughn, Washington.

■

Shadowal Block

• The interesting wall patterns shown in the three photographs at the left were formed with a new concrete masonry unit called Shadowal block, which was introduced at the 36th annual convention of the National Concrete Masonry Association in New Orleans. Shadowal masonry, which is an adaptation of the standard modular concrete masonry unit, involves the incorporation of a 3/8 inch recess of either triangular or rectangular shape on the face of the block. By using various forms of bonding an almost limitless variety of geometric patterns can be made. Pattern dimensions of the modular block are 3-13/16 inches from the top of the recess to the outer edge of the block, or 4 inches from the top of the recess to the middle of the mortar joint. A patent has been applied for Shadowal block and assigned to NCMA. Block machine manufacturers will be able to furnish attachments for the machines to members of NCMA. It is believed that member firms will be able to supply Shadowal block to the building industry by early summer.

Cabinet Official Says Sand and Gravel Dwindling

At the recent meeting of the National Ready Mixed Concrete Association in Chicago, Secretary of the Interior Douglas McKay told producers that commercial reserves of sand and gravel are scarce and nearing exhaustion in many areas. Secretary McKay noted that consumption of this vital aggregate is now at a rate in excess of 500 million tons a year.

■

Expert Sees Higher Housing Costs Ahead

A moderate increase in the cost of housing for the nation as a whole during 1956 has been predicted by an economist for the National Association of Home Builders. The costs of money, land, wages and materials, he points out, all seem to trend upward.

As evidence that home builders have been making increasingly effective use of materials and new techniques to hold down construction costs, this authority notes that overall construction costs have increased only 25 per cent since January 1950, while in the same period labor and material costs have risen 38 per cent and 27 per cent respectively. Among the important factors that are expected to bring about an increase in housing cost this year are the comparative scarcity of mortgage money and the continued rise in land costs.

■

Prestress Concrete Prices More Competitive

Figures made available recently by the Preload Company, Inc., of New York, indicate that prestressed concrete is becoming increasingly competitive from a price standpoint, especially in the field of bridge construction. The company reports that on 10 recent prestressed concrete bridge contracts prices for the complete structures ranged from $5.10 to $20.80 per square foot of deck.

For super structures alone the prestressed concrete prices ranged from $3.03 to $5.75 per square foot of deck. Preload's information indicated that these prices are from 17 cents to $2.43 per square foot under competing bids based on conventional designs in reinforced concrete and structural steel.

From Brimstone & Candles To Ready-Mix in 162 Years

When the Warner Company, producers of ready-mixed concrete and other building materials, undertook a house cleaning in preparation for moving into a new main office, among the interesting items that came to light was a bill sent out by the company's founders, William and John Warner, on December 27, 1794. Now in its 162nd year of continuous business activity, the company is very probably the oldest in the building material field on this continent.

The 1794 invoice, which was reproduced on the back cover of a recent issue of the company's employee magazine, *Warner News*, indicates that a major switch has taken place in product emphasis. But the list makes interesting reading, with its references to Geneva molasses, Jamaica spirits and rum, allspice, pigtail and paper tobacco, brimstone (no hell fire), pearlash, hard soap and candles. In addition to central-mixed concrete, the modern firm produces lime products, sand and gravel, slag and black top.

■

Photo courtesy of Besser Company

Cleveland Firm Will Enter Prestressing Field

George Rackle and Sons Company of Cleveland, Ohio, pioneer manufacturers of precast concrete roofing slabs, has announced plans to introduce prestressed concrete units in the greater Cleveland area. T. J. Gutt, a consulting engineer, has been appointed assistant to the president, George L. Rackle, to be in charge of the new development.

■

Next Stage In TV Screens?

● The world's largest drive-in Cinema Scope screen has been completed in the Pittsburgh area. The all-block structure houses six floors of office space in addition to serving as a movie screen. Over 33,000 block, made by Charleroi Supply Company, Charleroi, Pennsylvania, were furnished for the job.

Tentative Program of Prestress Meeting

H. H. Edwards, secretary-treasurer of the Prestressed Concrete Institute, has announced the tentative program for the organization's second annual convention, which starts on May 16 at the Hollywood Beach Hotel, Hollywood, Florida. One entire day of the 3-day affair will be devoted to panel discussions of materials techniques, application, design, production, inspection and specifications.

At another session technical papers will be presented by such authorities as T. Y. Lin, University of California; R. W. Kluge, University of Florida; H. J. Godfrey, John A. Roebling's Sons; W. J. Eney, Lehigh University, and Thor Germundsson, Portland Cement Association. It is also planned to spend an entire day visiting casting yards and prestressed concrete structures in the area. Additional informational regarding the meeting can be obtained by writing to the Prestressed Concrete Institute, P. O. Box 495, Lakeland, Florida.

■

Detroit Concrete Board To Study Basements

The Concrete Improvement Board of Detroit, composed of technicians from every local group using concrete in any form, has decided to create a research committee to conduct a study and make recommendations in connection with practices currently being employed in residential basement construction. The action was taken as the result of a report regarding certain substandard conditions which are not only in violation of the best construction requirements, but also were considered as prejudicial to the best interests of the concrete block industry.

The block industry's interest on the committee is represented by Benjamin Wilk, Standard Building Products Company, Detroit.

■

Czecks Develop Prestressed Rail Ties

A Russian news report indicates that prestressed concrete railroad ties are being produced successfully in Czechoslovakia. The new ties are said to effect savings of 30 per cent in concrete and 58 per cent in steel compared with Swiss, German and Belgian ties that have been under test on a railroad line near Prague since 1951.

The prestressed ties are described as two-hinged units containing two 5-wire strands of cable and a mesh of welded wire. The Russian report indicates that 50,000 of the units are now in service.

■

Name President

Cecil T. Lewis, of Henderson, North Carolina, has been elected president of the North Carolina Concrete Masonry Association.

Civil Engineers Honor PCA's Eivind Hognestad

Eivind Hognestad, manager of Structural Development, Portland Cement Association was one of three recipients of the first research awards to be presented by the American Society of Civil Engineers, oldest national organization of engineers in the country.

The award to Dr. Hognestad was for outstanding research on structural reinforced concrete, results of which have contributed immeasurably to the advancement of understanding in this field of civil engineering. "In the search for scientific knowledge," the citation stated, "Dr. Hognestad has displayed unusual imagination, ingenuity, skill and care in conceiving, planning, administering and executing his work. His record is one of distinguished service in the field of research."

The presentation was made at the Society's recent national convention in Dallas, Texas.

■

Texas Block Makers Plan Meeting at Austin

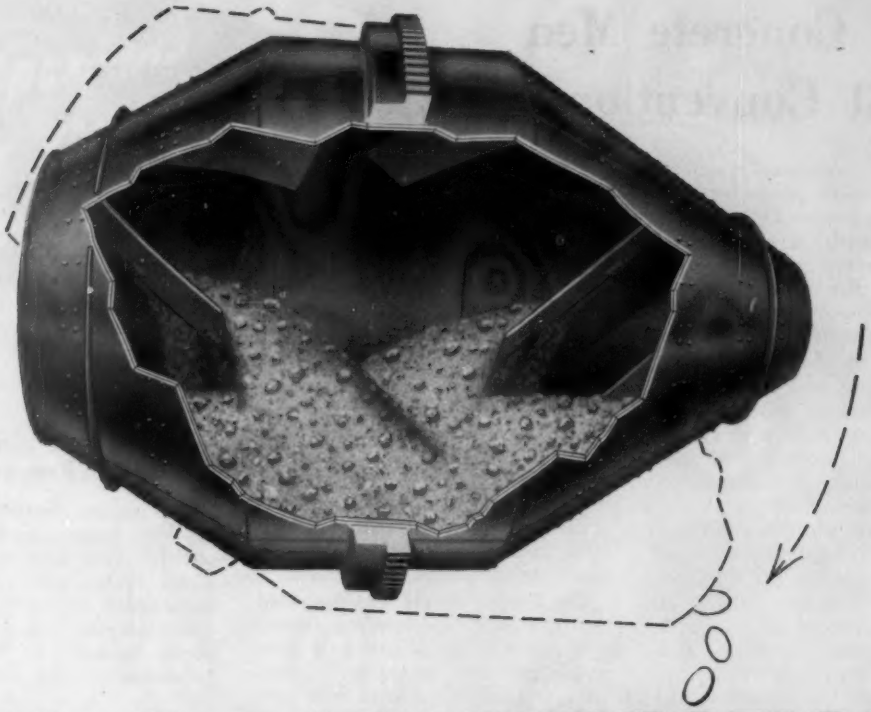
The spring meeting of the Texas Concrete Masonry Association will be held at the Hotel Stephen F. Austin, Austin, Texas, April 9 and 10. Instead of a formal program, it is planned to hold a series of round table discussions on current problems, and to chart a future course for the group.

At the Austin meeting Ervin Hahn, Atlas Building Products Company, will succeed J. C. Fountain, Dodds & Fountain Company, as president of the state association.

■

15 Million Blocks Can't Be Wrong

When Meekins, Inc., Dania, Florida, sold their 15 millionth block for use in the construction of the new Dania city hall, the company's alert management decided to make the most of the occasion for purposes of promotion. In the picture Miss Hollywood Home Show is accepting from company driver Harold Jarvis the gold-colored 15 millionth block, while the contractor foreman and the mayor of the city look on.



TILT in the right DIRECTION

You're looking at the inside story of a Smith Tilting Mixer. *The balance* between profits and costs *tilts way up in your favor* with these world-accepted mixers because no lifting of materials is necessary. *The batch is discharged simply by tilting the drum.*

Aggregates are folded over in the bottom of the drum — are lifted to a minimum degree. Materials can NOT drop down with a smash from top to bottom of the drum. Thus the greatest cause of wear is completely eliminated.

This is not possible with any other type of mixer. Long life, low maintenance cost are the result.

These Smith Tilters with their non-lift mixing easily handle large stones and boulders so frequently specified by engineers these days. That's an important plus value for you.

SIZES: 1, 2, 3, 4, 6, and 7½ yds. Write for details.

THE T. L. SMITH COMPANY

2881 North 32nd Street, Milwaukee, U. S. A.

Affiliated with Essick Manufacturing Co., Los Angeles, Calif.

A-8728-1P

Honor Concrete Men At ACI Convention

Among the significant actions taken at the recent annual convention of the American Concrete Institute in Philadelphia was the approval as standard of a Proposed Recommended Practice for Winter Concreting (Committee 604), and the adoption of an updated code for reinforced concrete (Committee 318).

Frank Kerekes, dean of the faculty, Michigan College of Mining and Technology, was elected president of the organization, succeeding Charles S. Whitney. Douglas McHenry, director of development, Portland Cement Association, was elected to a two-year term as vice president.

Also announced at the Philadelphia meeting was the election to Honorary Membership of Morton O. Withey, dean emeritus of the College of Engineering, University of Wisconsin. Dean Withey served ACI in several important administrative capacities. In 1931 he received the Wason Research Medal and in 1947 the Henry C. Turner Medal.

At the annual awards luncheon the Henry C. Turner Medal was presented to Franklin R. McMillan; the Alfred E. Lindau Award went to John I. Parcel; the Wason Medal for the most meritorious paper of the year was presented jointly to Charles S. Whitney, Boyd G. Anderson and Edward Cohen; and the Wason Medal for noteworthy research went jointly to Keith G. Moody, Ivan M. Viest, Richard C. Elstner, and Eivind Hognestad.

The Turner Medal, awarded for notable achievements in or service to the concrete industry, was presented to Mr. McMillan in recognition of "forty years of outstanding leadership in discovering and disseminating knowledge of the basic principles of concrete and concrete construction." He was director of research of the Portland Cement Association until his retirement in 1948. Since that time he has been active as a consulting engineer.

The Lindau Award was presented to Mr. Parcel "for inspired authorship and teaching of structural principles applicable to reinforced concrete design." Mr. Parcel is a partner in the engineering firm of Sverdrup and Parcel, St. Louis.

Messrs. Whitney, Anderson and Cohen received the Wason Medal for their joint paper "Design of Blast Resistant Construction for Atomic Explosions," which appeared in the March, 1955, issue of the ACI Journal. They are partner, associate partner, and designing engineer, respectively, of the consulting engineering firm of Ammann and Whitney, New York and Milwaukee.

The Wason Medal for noteworthy research was presented to Messrs. Moody, Viest, Elstner and Hognestad, for work reported in their paper "Shear Strength of Reinforced Concrete Beams." Dr. Moody is a research engineer from Australia, Dr. Viest is a research professor at the University of Illinois, and Mr. Elstner and Dr. Hognestad are both with the Portland Cement Association.

● In the spotlight at the recent annual convention of the American Concrete Institute: LEFT, Frank Kerekes and Charles S. Whitney; LEFT BELOW, Franklin R. McMillan and John I. Parcel; BELOW: R. C. Elstner, I. M. Viest, and E. Hognestad.

Western Pipe Makers To Meet In Fresno, Calif.

The annual meeting of the Western Pipe Association has been scheduled for April 25-27 at the Hacienda Motel, Fresno, California. The active membership of the group consists of 150 concrete pipe manufacturing plants located in Alaska, British Columbia, and ten western states.

Canadian Products Makers Hold Annual Convention

At their recent annual convention in Windsor, Ontario, members of the National Concrete Products Association heard production estimates on the 1955 output of their industry. Figures presented at the two-day conclave indicate that the industry's 1955 production included approximately 100 million concrete brick, 118 million concrete block, 17 million cinder block, about 8 million block of other aggregates, more than 1 million chimney block, about 6,500 lineal feet of concrete pipe, and more than 250 million cubic yards of ready mixed concrete.

The association's secretary reported a 25 per cent increase in membership and indicated the possibility of even greater increases in the years just ahead. One significant action taken at the meeting was the formation of a separate concrete pipe group within the association, as well as precast and prestressed concrete products groups.

The newly elected president of the association is Lou Scholes, Gormley Block Company, Gormley, Ontario. Mr. Scholes announced that the association has plans for beginning a program of research during the forthcoming year.

Re-evaluate Safety Measures After Block Machine Mishap

Operators of concrete block plants who are under the impression that because their operations are on a modest scale, they have no need of a planned safety program, would do well to study the following case history of a major accident—the sort of accident that almost anybody would be willing to bet just couldn't happen.

An employee with over nine years experience in the manufacture of concrete block was cleaning a high-production block-making machine and caught his right sleeve on a pin on the feed drawer agitator while the machine was cycling. The feed drawer pulled his arm directly under the pressure head and over the mold box. The pressure head lowered on the entrapped arm and crushed it to such an extent that an amputation below the elbow was necessitated.

The machine as delivered by the manufacturer is equipped with a control box mounted on the front right side of the frame for the offbearer's convenience in operation. This control panel contains off-on switches for the feed agitator, the drive motor and the cycling mechanism. It also includes positioning switches for the vibrator and the agitator. Also a red light shows at the front of the panel when power is on the control circuit, and no motor on this machine can run unless the power is on the control circuit. As an added safety measure, the owner of this plant had installed a separate power switch above this panel which, when open, would cut all power to the panel controls. This switch is of the key-operated type, with the key attached to a chain, so that when the switch is off, and the key is withdrawn from the switch, there is no possibility of accidentally brushing the switch on. Off-bearers were instructed to turn off this key-operated switch prior to cleaning or working on the machine, and typed instructions to this effect were prominently mounted at the panel location.

To the observer it would appear that this arrangement would preclude accidents involving the power operation of this machine, but the employee violated all instructions and posted safety rules in the plant.

Re-evaluation of safety measures, which had seemed sufficient prior to the mishap, resulted in the following action. Solid steel rods 2½ inches in diameter, and long enough to reach through the machine, are kept at each machine. When the machine is stopped for clean-up or any maintenance work, this bar must be placed in position behind the pressure head and on top of feed box. The heavy frame of the machine braces this rod and will jam the machine if it should accidentally be turned on. The plant superintendent has checked the efficiency of this system many times to ascertain that this bar will not break or give in any way. In addition, the employees are required to turn the cycle positioning switch to the manual position as well as to shut off power at the key-type switch. Supervisory personnel can tell at a glance if these safety precautions are being followed.

Appoint Managers of Marietta Concrete Plants

R. J. Wiedmeier

Robert J. Wiedmeier of The Marietta Concrete Corporation, Marietta, Ohio, has been appointed manager of the company's branch plant in Charlotte, North Carolina. Mr. Wiedmeier replaces Vernon L. Gatewood, who has been the Charlotte plant manager for the past two years. Mr. Gatewood, who had worked several years at the company's headquarters in Marietta before his transfer to the North Carolina plant, has been made manager of Marietta's Jamestown, New York, plant.

■

Medusa President Sees Continued Cement Dearth

In his annual report to company stockholders, Ellery Sedgwick, Jr., president of Medusa Portland Cement Company, predicted that if current estimates of the continuing rise in nation-wide construction activity are correct, cement will be in short supply during most of 1956. Mr. Sedgwick expressed the view, however, that with a substantial amount of new productive capacity coming into operation during the current year and early in 1957, there should be an ample supply of cement available in 1957 and subsequent years. The Medusa president said that the long range outlook for cement demand continues to be favorable since there still appears to be a heavy backlog of urgently needed construction. He believes that the largest single potential use is in highway construction.

■

Ready-Mix Man Succumbs

Charles E. Kuhlman, president of Kuhlman Builders Supply & Brick Company, passed away recently at his home in Toledo, Ohio. Mr. Kuhlman was one of the organizers of the Ohio Ready Mixed Concrete Association in 1938, and had maintained an active interest in the organization's affairs since that time. He was president of the group in 1945 and 1946.

Rocklite Products Promotes E. A. Peterson

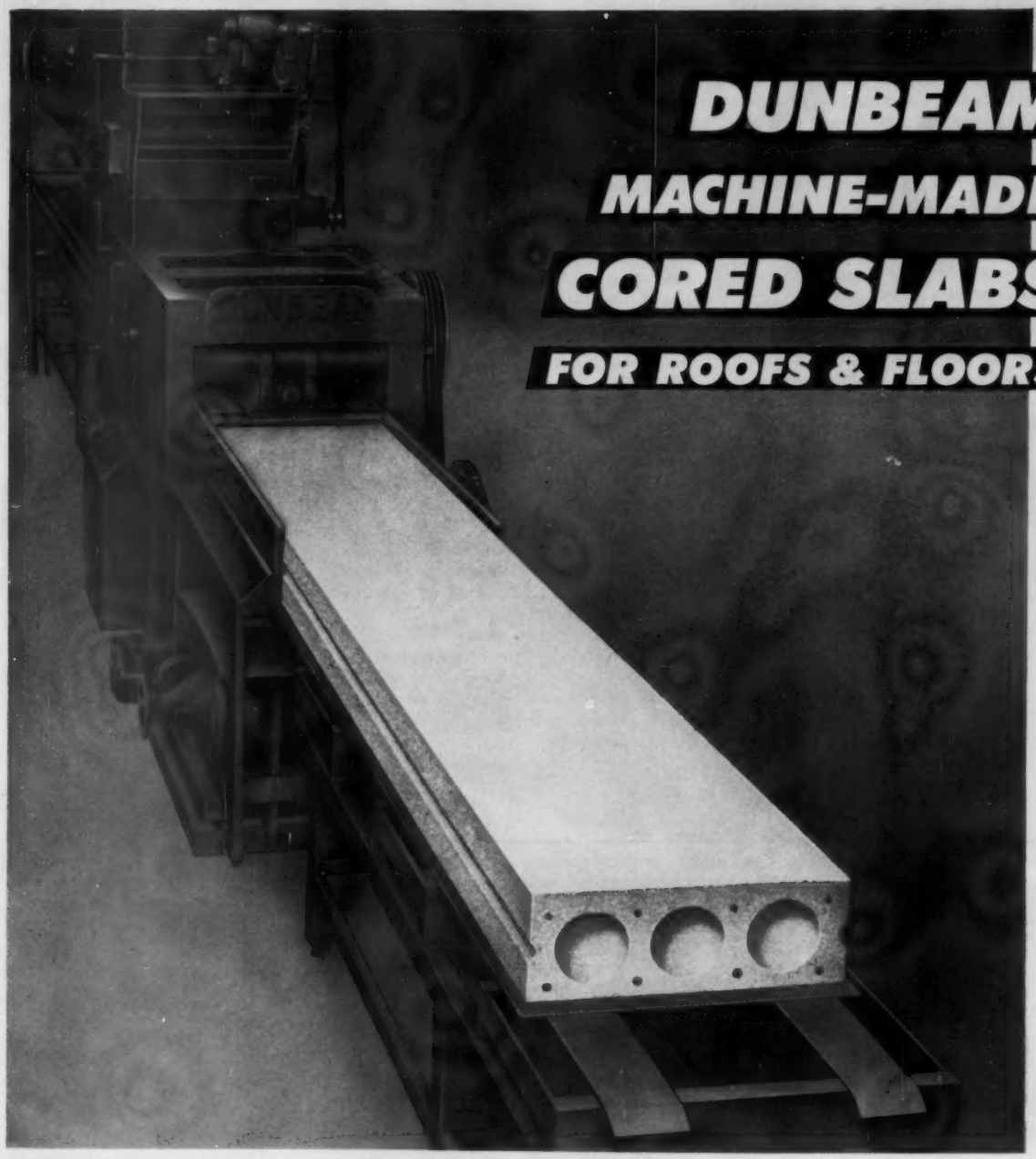
E. F. Brovelli, president of Rocklite Products, Ventura, California, has announced the appointment of Elmer A. Peterson to the position of vice president. Mr. Peterson has served as general manager of the company's affairs in southern California since the inception of operations at Ventura and Los Angeles in 1947. He is a member of the board of directors of the National Concrete Masonry Association.

■

NCMA Members Receive Classified Photo Folder

An 8-page folder of classified photographs has been mailed to members of the National Concrete Masonry Association to assist them in ordering pictures of outstanding concrete masonry jobs. The views are grouped into such categories as types of buildings, outdoor living, wall patterns, fireplaces and so on.

The association believes that the folder will make it easier for members to select suitable illustrative material for lectures, exhibits, catalogues or other promotional purposes.



Continuously and smoothly, 24-inch

cored slabs emerge from the Dunbeam machine,

densely compacted by vibration, directional rotary tamping, and troweling. Lengths practically without limit, and thicknesses to correspond with lengths. Can be readily adapted to make other structural members: I-beams, T-beams, rectangular beams, channel roof tile, etc. Dunbeam machines are available on lease/license, with exclusive privileges in protected territories, to firms with adequate facilities and finances. Full information upon request.

W. E. DUNN MFG. CO., 502 W. 24th Street, HOLLAND, MICH.

Florida Concrete Assn. To Meet At St. Petersburg

Paul Lenchuk, executive secretary of the Florida Concrete and Products Association, has announced that the organization's next annual convention will be held at the Tides Hotel, Redington Beach, St. Petersburg, Florida. The dates will be June 17, 18 and 19. Mr. Lenchuk promises that a highly informative program will be staged for producers of ready mixed concrete and concrete products.

Non-member producers and suppliers to the industry are invited to attend the meeting. Reservations must be obtained by writing to Florida Concrete and Products Association, P. O. Box 171, Winter Park, Florida.

■

Cement Outlook Brightens For Users in Ohio

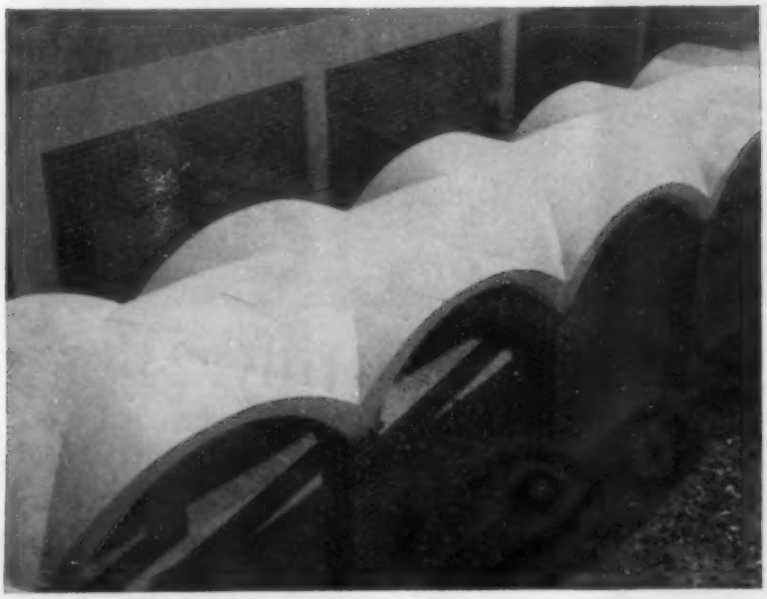
The cement committee of the Ohio Ready Mixed Concrete Association, under the chairmanship of Donald Mell, recently reported the results of its comprehensive survey of cement manufacturing capacity in the state. Information was supplied by the nine companies now operating in the state, as well as by a tenth concern which is building a plant scheduled for completion in 1957.

The nine corporations reported total rated plant capacity of 12,491,000 barrels as of January 1, 1946. During the period January 1, 1946 to January 1, 1954, productive capacity was increased to 16,300,000 barrels. Productive capacity for 1956 was reported as 19,712,000 barrels. Further additions proposed will provide a total capacity of approximately 24,547,000 barrels for 1958. This represents an increase of more than 50 per cent above the 1954 capacity.

■

Buildex Appoints New Sales Engineer

Buildex, Inc., Ottawa, Kansas, has announced the appointment of William M. Joyce as sales engineer. Before joining Buildex Mr. Joyce had extensive experience in the fields of heavy machinery and construction. His primary activity for Buildex will be directed toward customer service in connection with design work and jobsite problems.



Precast Concrete Canopy

• The roof sections for the covered walkway pictured above consist of precast concrete. The installation is at Christian Brothers College, Memphis, Tennessee, and the precasting was done by the White Stone Company of Memphis.

Worried About Metal Skin? Here's Some Reassurance

Are you having nightmares as a result of the recent flurry of interest in metal-skin buildings? If you are, then you'll be interested in some of the findings of a survey conducted by the Building Research Advisory Board of the National Academy of Sciences among 220 owners of such structures.

Here are some of the things the owners revealed:

30 per cent of the buildings have been noticeably infiltrated by air;

24 per cent have been noticeably infiltrated by water;

11 per cent have been noticeably infiltrated by snow;

25 per cent have been noticeably infiltrated by dust;

14 per cent had noticeable drafts near the walls;

40 per cent had walls cold to the touch;

8 per cent had vapor condensation on the interior face of the wall;

20 per cent had some corrosion, rust, pitted, or etched exterior surfaces;

28 per cent had grimy, streaked or permanently darkened exterior surfaces;

30 per cent had faded exterior colors.

Of the buildings covered by the survey, 79 per cent were less than five years old, 36 per cent had aluminum exterior faces, 7 per cent had stainless steel faces, and 11 per cent had procelain-enameled steel faces.

■

ASTM Names Assistant Technical Secretaries

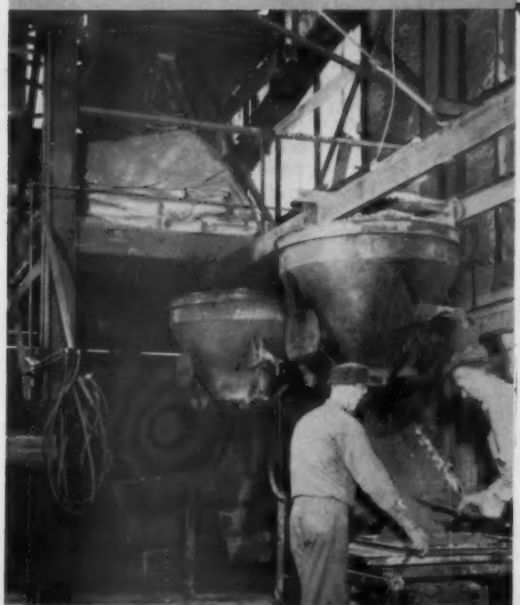
L. C. Gilbert and J. W. Caum have been designated senior assistant technical secretaries by the American Society for Testing Materials. Both Mr. Caum and Mr. Gilbert have been members of the ASTM staff since 1946 and have been responsible for contacts with numerous technical committees.

Mr. Gilbert, a civil engineer and a graduate of the University of Cincinnati, has been concerned with the work of committees on ceramics, cement and concrete, and other highway and building construction materials. Mr. Caum, a metallurgist and a graduate of Pennsylvania State University, has been working with committees in the field of ferrous and non-ferrous metals.

HELTZEL

PLANT HELPS CONCRETE PRODUCTS MAKER LAND LARGEST ORDER

"Heltzel Plant will save its cost in cement economies alone" says plant manager.



Further mechanizing their plant, the Columbus people designed an inexpensive method for moving concrete from the mixer to the forms. Half-yard Heltzel Concrete Buckets were fitted with wheels which ride in an overhead rail that leads to the various departments. The concrete is discharged into hoppers, then as required, into the forms.

Concrete products manufacturers who feel they can't afford modern day batching equipment should talk with the people at the Columbus Cement Products Co., Columbus, Ohio.

For the past five years, this concern was making a variety of products without the advantages of a batching facility. An aggresive management realized that if they were to expand, they would have to have the help of an up-to-date batching plant. **After looking over many types, they selected a Heltzel Combination Plant with Heltzel Cement and Aggregate Elevators.**

The result: the same crew has almost doubled its productivity; they have expanded their line of products; they find they can accept larger orders, and by reason of this improvement have been selected to supply the products required on Central Ohio's largest building project; they save several thousands of dollars by buying cement in bulk instead of by bag.

Says Ed Haban, Plant Manager at Columbus, "We certainly made the right move when we selected the Heltzel Batching Plant. We are recovering our cost in cement economies alone. Further, we find that maintenance costs are at a minimum."

When considering batching equipment, remember it pays to buy the best—and Heltzel Quality Batchmasters cost no more.

HELTZEL

Batchmaster

BATCHING PLANTS

9941

THE HELTZEL STEEL FORM AND IRON CO., WARREN, OHIO
85000 Thomas Road

Sales CLINIC

by Joseph N. Bell

Easy Does It

A Philadelphia bank recently went through an interesting experience in employee relations, from which other organizations might profit. On the reasonable assumption that their employees could do a better job if they were intimately acquainted with all facets of the institution for which they were working, and given specific instructions in dealing with the public, the bank — 9 years ago — began an after-hours training program. Attendance was a must, and workers who exceeded their normal hours were paid overtime. Results were just fair; employees were there in body, but not always in spirit. This year the whole program was revised with a new philosophy. It was re-named a workshop, and speakers were recruited from outside to address the bank employees on various phases of their work which bank officials were anxious to get across to them. Open question forums followed and light refreshments were served. Sessions were still held after working hours, but this time attendance was optional and no overtime was paid. More than 70 per cent of the bank workers are taking advantage of the workshop, and results indicate they — and, subsequently, the bank — are profiting from what is being taught. Moral: why try to cram something down the throat of your employees when a little thought and understanding can accomplish the same purpose harmoniously.

Come On

As competition for direct mail attention increases, so does the ingenuity in the mailing piece ideas. Two clever ones have recently come to our attention. One, from a paint company, was a personally addressed note inviting the recipient to drop in at the paint store and pick up a free ticket to an Automobile Show then in progress nearby. Traffic in the store increased tremendously, and it's a safe bet that many of those people returned the next time they needed paint. Another local concern mailed one cuff link to a select male audience of prospective customers—along with an invitation to drop in and pick up the other. Again, store traffic was high and so were sales. The same idea could easily be carried over into the building materials field — something short, though, of mailing half a sidewalk slab or the corner off a slump brick.

Man's Inhumanity

A guy can't get away with anything in business anymore. Now agencies are springing up all over the country to send trained operators out to solve your business problems with a lie detector. Actually, businessmen have been finding the lie detector a very useful item in three areas: (1) eliminating bad employment risks before they are hired; (2) cleaning up petty thefts; and (3) discouraging employees with sticky fingers.

You understand, we're not recommending this, but just offering it up as an item of general interest. Although the ethics are questionable and its effect on employee morale would appear to be devastating, apparently most lie detector applications thus far in business have been quite successful.

For example, a middle-sized corporation recently tripped up a smooth-talker they were about to hire as treasurer. After tilting unsuccessfully for a half-hour with the lie detector, he admitted to being an ex-convict with a mile-long record of embezzling. A midwest building materials company that had lost about $45,000 through unexplained inventory shortages over a two-year period hired a lie-detector operator and unearthed a ring of 15 employees who were robbing the company blind.

It works both ways. Another company discovered through lie detector tests that almost all of its employees were involved in petty thefts — not for material gain but to take out their spite on the company. This outfit was wise enough to place the blame where it belonged and take a hard look at company policies. The result was a plant-wide modernization program, a marked improvement in working conditions, a tremendous up-grading of morale — and the end of petty thefts.

Defense of Flotsam

Have you ever inventoried the collection of flotsam and jetsam in and on your desk — the calendars, erasers, pens, pencils, desk pads, bottle openers and numerous other items —which contain an advertising message? Most businessmen can prove the effectiveness of specialty advertising right on their own desk. And it seems to us that the building materials field is particularly well suited for this type of sales promotion. That a lot of businessmen are convinced of the effectiveness of specialty advertising is illustrated by the fact that the specialty industry last year grossed in excess of $400 million — which represents a lot of nude calendar art and ball-point pens.

There are some rather basic advantages to specialty advertising. For example, specialties provide repetitive advertising as no other medium can. Everytime your specialty is picked up or used, the customer is exposed to your advertising message. Then specialties are *inexpensive;* they require no high-priced campaign to get the desired results. Specialties hit the target without waste of time, effort or money. Because the advertiser can carefully choose his prospects for a specialty item, it becomes true pinpoint advertising. And finally, specialty items are useful (or should be) and invite a mild feeling of gratitude toward the donor from the customer.

Some remarkable results have been attained through specialty advertising. To illustrate, a dry cleaner in a medium-sized town recently bought 250 wall thermometers from a specialty house and distributed them in a two-block residential area near his place of business. Within 14 days, he had 27 new customers — and hundreds of dollars worth of new business annually.

Specialties shouldn't be a shot in the dark, however. The nature of the specialty should be carefully thought through and the audience painstakingly selected. Specialty houses have "sales advisors" who will discuss your merchandising problems and how specialty items can do a job for you. Might be worth looking into.

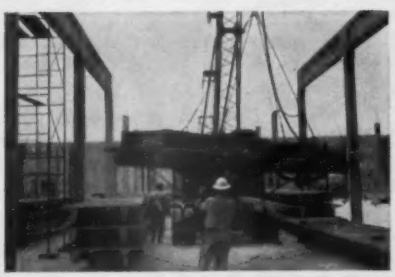
PREFABBED...one hundred percent

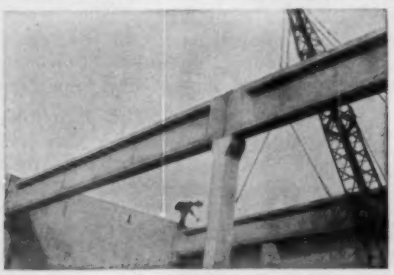
SEARS, ROEBUCK WAREHOUSE COMBINES TILT-UP AND PRECAST CONSTRUCTION FOR MAXIMUM ECONOMY

● This new warehouse for Sears, Roebuck & Company, in Jefferson Parish, Louisiana, with 77,000 sq. ft. of floor space, is prefabricated construction, one hundred percent: Tilt-up walls, precast, prestressed concrete I-shape girders, each 30 ft. x 3 ft., with 12-in. flanges; precast concrete double-T roof panels, each 30 ft. x 5 ft. x 12 in. deep.

Buildings like this go up as slick as a whistle—9500 sq. ft. of girders and roof slabs erected per day. That is the big thing about concrete prefabrication—it makes fullest effective use of every man-hour of time put against it. Manufactured to closest tolerances, for fast erection with minimum supervision, structures like this represent the most effective application of the assembly-line principle to building construction.

Lone Star Cement was used in heavy-duty floors, in tilt-up wall panels and precast roof slabs. 'Incor'* 24-Hour Cement was used in prestressed girders, for economical fabrication speed, and for the well-established reason that prestressing makes fullest use of the always dependable high-early and high-ultimate strength of America's FIRST high-early strength portland cement. *Reg. U. S. Pat. Off.





SEARS, ROEBUCK & COMPANY
Warehouse—Jefferson Parish, La.

Architect: GEO. SAUNDERS

Structural Engineer: WALTER E. BLESSEY

Prefabrication by:
HOGAN BROS., INC., General Contractor

Ready-mix Concrete:
JAHNCKE SERVICE, INC.
BERT WEAVER MATERIALS INC.
—all of New Orleans

LONE STAR CEMENTS COVER
THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT CORPORATION

Offices: ABILENE, TEX. • ALBANY, N. Y. • BETHLEHEM, PA.
BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON
INDIANAPOLIS • KANSAS CITY, MO. • NEW ORLEANS • NEW YORK
NORFOLK • RICHMOND • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 18 MODERN MILLS, 38,000,000 BARRELS ANNUAL CAPACITY

SAFETY PAYS

Omaha block firm finds accident prevention pays off generously in declining insurance premiums.

Does an accident-prevention program pay off in dollars and cents? Officials of the Ideal Cement Stone Company of Omaha, Nebraska, believe that it does, and they have figures to back up their opinion.

Back in 1947 the company began to take positive steps to reduce the frequency and severity of accidents in and around its block and precast concrete plant. The accident-prevention program that began to take shape was neither complex nor costly. Perhaps its best feature was merely that it began to focus attention upon a problem that had received very little attention in the past. In the early stages safety work consisted mostly of getting foremen interested in the problem, and encouraging them to discuss safety practices with the men.

Even this mild injection seemed to produce measureable results, and gradually a more formal program was developed. Regular safety meetings were scheduled, and competent speakers were sought to discuss various aspects of the problem. The use of safety equipment was emphasized, and employees were paid bonuses for working without accidents. Prospective employees were screened before they were hired to eliminate those with outstandingly poor safety records and existing employees were disciplined for having too many chargeable accidents.

At the outset major emphasis was on in-plant safety, but as gradual improvement occurred in this phase of operations, the company's performance in respect to truck and automobile safety began to look very poor indeed. At one stage it became almost impossible to obtain liability insurance without tying in Workmen's Compensation insurance, and the firm's carrier finally agreed to continue only on the basis of a 50 per cent increase in premium.

At this stage a driver safety program was launched, and again the accent was on simplicity. Monthly meetings were held, and the spotlight was turned on recent accidents. Aided by safety experts employed by the insurance carrier, the men themselves learned to analyze accidents, and to suggest ways of preventing them. Bonuses were established for good safety records, and penalties were meted out for poor performance. After only three years the company is now on a 20-per cent credit premium, and the immediate outlook is for an even more favorable liability rate.

Ideal's safety program, simple as it was, produced even more startling results in respect to the cost of compensation insurance. In the year 1948 to 1949 the company received its first experience premium credit of 7 per cent. In each subsequent year the credit showed an increase, until in 1951 the minimum premium leveled off at approximately 40 per cent of the standard premium. It has remained at about that level since 1951.

For the year 1950 to 1951 Ideal elected to operate under Retrospective Plan C, on which the insurance gamble is the greatest. The actual return premium for this year's experience was $2,051, making the net cost $2,142. Without the Retrospective Plan, and in the absence of an experience credit, the firm's manual premium would have amounted to $6,050 for this period. Comparisons of restrospective premiums with manual premiums for other years are shown in the accompanying table.

A recent letter from Ideal's insurance carrier made this interesting commentary on the company's safety program:

"You certainly have every reason to be proud of your experience during the past few years. You paid us $2,937 for Workmen's Compensation insurance that would have cost you $7,047 at manual rates. These manual rates were reduced by 41 per cent because of your wonderful experience of recent years. My congratulations to you and your entire organization for the excellent job you have done."

Does an accident-prevention program pay? This is what Earl W. Peterson, vice president of Ideal, had to say on the subject in a recent letter to CONCRETE:

"In my opinion there is no phase of activity that management can give attention to that takes so little time and yet returns so much from a financial standpoint."

TABLE—COMPARISON OF WORKMEN'S COMPENSATION PREMIUMS

	Manual Prem.	Experience Credit	Standard Premium	Losses	Return Prem.	Retrospective Prem.
1948-1949	$5664	7.0%	$5268	$1368	$ 421	$4847
1949-1950	5630	23.6	4302	1893	302	4000
1950-1951	6050	30.7	4193	397	342	3841
1951-1952	6087	41.4	3567	714	282	3285
1952-1953	7367	40.9	4354	461	2183	2171
1953-1954	7047	41.0	4158	1237	1221	2937

Already well-established in many European markets, the very-low-density concretes seems destined to gain a foothold here in the United States. Here are some of the things you should know about them.

By JOHN L. HANOLD

Mearl Manufacturing Corp.
Roselle Park, New Jersey

USE OF FOAM IN CONCRETE

Most concrete men are familiar with air entrained concrete, in which resistance to frost and chemical action is increased by entraining small air bubbles in the concrete. One of the commonly used methods of obtaining these air bubbles is to place a small amount of a foaming agent in the concrete mixer. The air is then entrained as the mixing action takes place, much as air bubbles are produced in an egg white as it is beaten into a meringue. In this case, only a very small percentage of air entrainment is required — perhaps 3 to 6 per cent. Air entrainment also has some advantages in dispersing the various ingredients in a mix to obtain a more homogeneous material and as a plasticizer to improve the surface texture of concrete castings.

Somewhat higher air entrainment is often used to replace water to overcome harshness in a concrete mix. This is particularly true of some of the expanded lightweight aggregates. The air acts somewhat as a lubricant within the mix, giving it a more fluid quality while maintaining a lower water-cement ratio. This greater air entrainment can be carried a little further to afford a greater density range for any given aggregates. For example, with some aggregates it is necessary to use a relatively high proportion of fines in order to have the desired workability. The amount of fines required can be cut down considerably by substituting air bubbles for these fine aggregates. Complete substitution results in the "no-fines concrete" recently investigated at the National Bureau of Standards. This substitution of practically weightless air bubbles for relatively haevy sand will obviously reduce the density of the resulting concrete. A range of densities can be obtained for a given aggregate by varying the amount of air used in the mix. There is, of course, a limit to the amount of air that can be used. If too much air is entrained, the binder will consist of such a large percentage of air that it will have very little strength, and the resulting concrete will be very weak and tend to crumble around the pieces of aggregate.

It is possible to go one step further, however, and eliminate the aggregates altogether, replacing them with bubbles of air. This is cellular concrete. Although it is not a new idea, cellular concrete has recently been receiving considerable publicity in this country.

Generally speaking, cellular concrete is any concrete having a homogeneous cell structure. It may include sand-cement as well as neat cement mixes with a relatively high percentage of entrained air. Such a concrete can be produced by using an excessive amount of water which, when evaporated, will leave pores in the resulting product. This same effect can also be accomplished by casting some sort of an aggregate in the concrete which can later be melted or evaporated out. These concretes, however, are porous in structure and subject to high capillary action. They are therefore not "cellular" concretes in the true sense.

True cellular concrete has a cellular structure of non-interconnected bubbles and therefore has a very slow rate of water absorption. Two methods are commonly used to obtain this structure. One is by chemical reaction, in which some ingredient, such as aluminum powder, is added to the water-cement slurry. A reaction takes place between the aluminum powder and the alkalies in the cement which gives off hydrogen gas. In essence, the gas is caught in the form of bubbles within the concrete mixture as it hardens, thus producing the cellular structure.

The second method is to entrain air mechanically within the mixture. This can be done by whipping the air into a slurry containing some of the foam liquid, or by adding to the water-cement slurry a preformed foam similar in appearance to the shaving cream obtained from an aerosol can. This foaming process is easier to control and is also more economical than chemical processes.

The mix foaming technique requires a mixer with high shearing action. This is usually accomplished by operating a standard paddle type mortar mixer at high

NOW

Turbodiesels

96" FULL COMFORT CAB

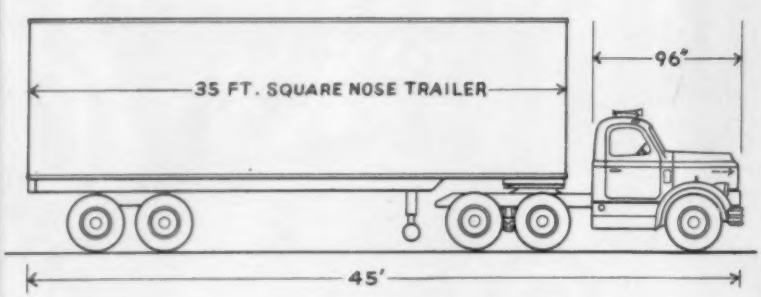
...at no premium price!

REO 96" A SERIES

with Cummins 175 h. p. JT-6B Turbodiesel

All the rugged engineering features of the *world's toughest trucks* plus exceptional maneuverability and roomy driver comfort of full-size conventional cab. *96" cab tractor pulls modern high-capacity square-nose trailers within 45' overall.* Tandem and single axles. All standard wheelbases for straight truck and truck-trailer uses, on or off highway. Models up to 48,000 G.V.W. or 62,000 G.C.W.

Reo A Series also in Gas or LPG Gold Comet short-stroke, wet-sleeve V-8s, 195—220 h.p.



REO
REO

REO FULL COMFORT CAB...

at no premium price!

REO F SERIES

with Cummins 175 h. p. JT-6B Turbodiesel

All the famous engineering and rugged-duty construction features of the *world's toughest trucks* in a highly maneuverable, easy-handling conventional style cab. Roomy comfort reduces driver fatigue. Smooth, low-vibration-level performance under extreme loads at high throttle.

Tandem and single axles. All standard wheelbases for straight truck and truck-trailer uses, on or off highway. Models up to 48,000 G.V.W. or 62,000 G.C.W.

Reo F Series also available with Gas or LPG Gold Comet Engines—short-stroke, wet-sleeve *sixes*—from 107 to 160 h.p.

COMING SOON! **200, 250 and 300 h. p. Turbodiesels in the new Reo Super-V 63 (COE).**

● what's next...watch

MAIL FOR COMPLETE INFORMATION TODAY!

REO MOTORS, INC.
LANSING 20, MICH.

Please send, immediately, information on Reo Diesels:

"A" Series_____ "F" Series_____

New Reo Super V (COE)_____

Gold Comet "6"_____ V-8_____ Gas_____ LPG_____

NAME _____

COMPANY _____

TITLE _____

ADDRESS _____

CITY _____ COUNTY _____ STATE _____

ID 12

REO

LANSING 20, MICHIGAN • TORONTO, ONTARIO

SUBSIDIARY OF BOHN ALUMINUM AND BRASS CORPORATION

WORLD'S TOUGHEST TRUCK

speed, although some people prefer a horizontal propeller type mixer. For very low density foam concrete, it is usually advantageous to mix the water and foam liquid together first, thus producing a foam. The cement is then added, as the mixer continues to blend the various materials. For the somewhat denser foam concretes, a water-cement slurry is often formed first, then the foam liquid is added, and the entire mixture whipped at high speed until the proper amount of air is entrained. The main advantage of the mix foaming method is that only one piece of equipment, a high speed mixer, is required.

The second and more common method of producing foam concrete is the preformed-foam technique. A solution of foam liquid in water is mixed with compressed air in a special foam generator to produce a tough, stable foam. The foam generator is factory-calibrated to deliver foam at a given rate; therefore, the amount of foam added to the concrete mix can be gaged by the duration of its delivery. For example, if the foam generator delivers 10 cubic feet of foam per minute and a particular mix requires 5 cubic feet of foam, the foam generator is operated for 30 seconds. A properly calibrated foam generator, and the necessary curves and data sheets required to design any desired foam concrete mix, are provided by the supplier of the foaming agent.

Since the foam is produced mechanically and a predetermined volume of air in the form of a stable foam is added to the mixture, it is easy to design a mix without worrying about water hardness, temperature changes, or other factors which affect chemical reactions. It is also possible consistently to maintain the designed density batch after batch. The only equipment required, in addition to the foam generating system, is a standard concrete mixer and a source of compressed air.

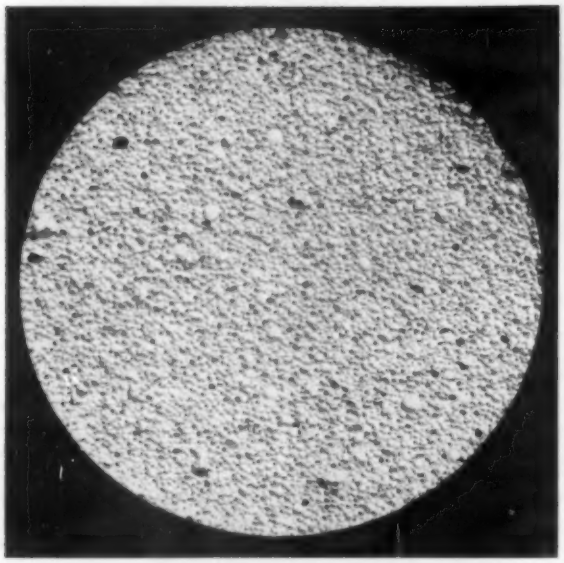
The foaming agent most effectively used for foam concrete is a liquid based on hydrolyzed protein. The development of hydrolyzed protein foam liquids, used by the armed forces in fighting gasoline and oil fires, has provided the background for making the chemical modifications necessary to perform efficiently in foam concrete. These foams are not affected by water hardness, normal temperature variations, or humidity. They are generally neutral in character and noncorrosive to iron, steel, most other metals, ceramics, and plastics. They present no known industrial hazards and may be handled without any special precautions.

These specially developed foam liquids are now used to produce foam concretes with precisely controlled density in any range from 18 to 120 pounds per cubic foot. Since the air bubbles are produced mechanically, rather than chemically, there is no expansion in the forms or molds after the mix is placed. Particularly with the neat cement foam concretes, it is generally preferable to use high early strength cement. Excellent results, have been obtained, however, with regular portland cement, using 2 per cent calcium chloride by weight of cement as an accelerator.

The production of foam concrete is a relatively simple process. As with any concrete product, however, the result is only as good as the control exercised in production. Obviously, a certain amount of know-how is required to obtain the best results. In order to prevent the misuse of foam concrete, the applicator must be familiar with the limitations as well as the capabilities of the particular foaming system he is using. The best authority is the producer of the foam liquid. For poured-in-place applications, only one or, at the most, two properly trained people are needed to maintain control and organize a crew made up of men hired locally. Except for very large jobs, it is probably best to have all the equipment for mixing and placing the foam concrete mounted on a truck or trailer, so that it can be brought to the job site and set into operation with the minimum time lost in setting up. With such equipment, a permanent crew of a truck driver-operator plus a superintendent could handle most poured-in-place concrete jobs.

Neat foam concretes (that is, foam concretes with no aggregate other than the air) range in density from about 18 to a little over 40 pounds per cubic foot air dry. The binder is usually portland cement or a combination of portland cement and some pozzolanic material. However, any cementitious material that is compatible with

• LEFT: These 2-foot square tilt-up sandwich wall panels for a cold-storage warehouse consist of reinforced dense concrete skins and a foam concrete insulating core. BELOW: Transit-mix trucks are well adapted to transporting foam concrete for poured-in-place applications.



• Photomicrograph showing the cellular structure of foam concrete. Since the structure consists mainly of non-interconnected bubbles, the material has a very low rate of water absorption.

the foam may be used. The very low density materials (that is, below about 22 pounds per cubic foot oven dry) are primarily used as a poured-in-place rigid thermal insulation. This material has a compressive strength around 100 pounds per square inch and, because of its cellular structure, has a very slow water-absorption rate. It is rotproof, verminproof, fire-proof, and has a low thermal conductivity or "K" value. It has been used extensively for the insulation of underground steam, hot water, and process lines. It has also been used as an insulating material in sandwich panels, cavity walls, and similar applications.

Foam concretes in the density range of from 25 to 40 pounds per cubic foot have been used successfully as insulating roof fill placed over structural roof decks. Since a relatively small amount of water is required to produce the foam concrete, it will dry out much more quickly than many of the other materials used as insulating fill. Furthermore, once it has dried out, it will not absorb moisture to any great extent during inclement weather. This material has a compressive strength sufficient to withstand roof traffic and provides good bond for the built-up roofing. In addition to insulating roof fills, it can also be used as an insulation under slab-on-grade or basementless homes, or it can be precast into insulating panels. These precast insulating slabs can then be used in the same manner as any other rigid insulating material.

Foamed sand-cement mixes, ranging in density from approximately 40 to 100 pounds per cubic foot air dry, can be used as on-grade floor slabs as well as for lightweight floor fill on multiple-story buildings. This lightweight material, of course, reduces the dead load when used as a floor fill. It also provides an execllent base for most of the floor finishes in use today.

Good grades of lightweight structural concrete can be produced by using foam in conjunction with aggregates with or without fines. Small structural members, such as 2-by 3-foot roof tiles, can be cast from neat foam concrete at about a 40 pounds air dry density. However, due to the tendency towards shrinkage cracks, great care must be exercised when using moist-cured neat foam concrete for structural purposes.

The dimensional stability of cellular concrete, like that of concrete block, is greatly increased if it is cured in an autoclave under high pressure steam. There are many possible combinations of cementitious and pozzolanic materials which could be used in autoclaved foam concrete products. Further, the optimum autoclave cycle varies with the ingredients, the density, and the dimensions of the product being autoclaved. Then, too, foam concrete, by virtue of its high air content, is a very fluid mix. Therefore, an altogether different casting technique must be employed from that generally used with the so-called "zero slump" concretes. This is perhaps one reason why no one has as yet gone into the commercial production of autoclaved foam concrete in this country, in spite of the fact that it is possible to obtain strength in excess of 1500 pounds per square inch at a density of approximately 45 pounds per cubic foot. With the increasing trend toward autoclaving concrete products, however, more and more concrete operators are investigating the possibilities of this high-quality, low-density structural product.

In Europe, particularly in Sweden, autoclaved cellular concrete has gained wide acceptance. Plants are in operation throughout Europe, and additional plants have recently been opened in Canada, Mexico, and South America, and there is every reason to believe that autoclaved cellular concrete will soon be produced in volume in the United States.

Michigan Block Group Publishes Uniform Specs

In an address before the recent third annual convention of the Ohio Concrete Block Association, C. A. Sirrine, executive secretary of the Concrete Products Association of Michigan, disclosed that his group has published and distributed uniform concrete masonry specifications applicable throughout the state of Michigan. Drafted by a joint committee representing all interested groups, the uniform specification represents 13 months of intensive effort on the part of the joint committee which undertook the job.

In its published form, Mr. Sirrine said, the specification carries the official approval of both the controlling organizations of architects in Michigan, as well as of the state concrete products association. Sufficient copies have been printed to permit free distribution to every architect and engineer of record in the state, and to members of the Associated General Contractors and other consrtuction organizations.

"Not only," Mr. Sirrine said, "does this specification provide the professional groups with the proper statements for use in obtaining the highest quality concrete masonry units, but equally important, the document sets forth in unmistakable terms those conditions which are necessary to safeguard the manner in which the units are to be used. In addition, it offers uniform information to the builder upon which estimates may be based, free from the dangers of ambiguity and hidden requirements. Last, but by no means least, protection is offered to the concrete masonry producer against the common misuses of his products."

The problem of retaining business records is as important for the small business as for the giant enterprise. Recordkeeping offers the greatest potential for savings in the paperwork area. Records retention schedules which show the life span of each type of record make it possible to effect such savings while meeting both Government requirements and individual needs.

RECORDS RETENTION IN SMALL BUSINESS

By ROBERT A. SHIFF
National Records Management Council

There can be no-quick-and-easy solution to the records retention problem. An effective schedule is as individual as a prescription for eyeglasses. Experts can work with you to develop a schedule, but they are always dependent on the special knowledge that you have. However, some general rules or guideposts can be given.

Developing A Retention Schedule

Here are the basic factors to consider in the light of your own operations and experience: (1) legal requirements, (2) administrative requirements, (3) historical requirements, and (4) administrative discretion.

LEGAL REQUIREMENTS.—Pay primary attention to what records you must keep for specified lengths of time in order to comply with Federal, State, or local requirements, Also, there are instances where certain records should be kept even in the absence of a specific rule because of statutes of limitation. These laws prescribe the length of time after an action during which legal proceedings can be taken against your company or any of its personnel. Your legal advisers can tell you how long certain types of information must be kept. Note that it is the information contained on a record that must be kept, not a record as such. The Government usually does not prescribe by title or name the particular form on which the data must be recorded.

ADMINISTRATIVE REQUIREMENTS.—Your own operating needs are another reason why no "canned" schedule can be satisfactory. The schedule you develop must take into account your current practices—not those of another company. There are definite advantages in continuing procedures you have found satisfactory and with which your employees are familiar. By analyzing the use to which your records are put, you can tell what records are referred to, by whom, and how often. Some records of historical value, especially those indicating why certain decisions or policies were adopted in the past, provide valuable future administrative guidance. Only the management of a concern knows which records fall into this category and should be retained accordingly.

ADMINISTRATIVE DISCRETION.—It is your discretion that dictates which records will best satisfy all requirements. For example, the regulations of the Interstate Commerce Commission concerning certain carriers and freight forwarders, contain retention clauses ranging from 2 years to permanent for information about property. In addition, payrolls and material-distribution sheets must be kept permanently, except when the data is transcribed to other permanent records. A whole series of records frequently contain this information—time cards, vouchers, job tickets, payroll worksheets—and it is within management's discretion to designate one or two of these for permanent retention. In this way, much space and equipment can be saved. Many statutes of limitation also leave room for discretion. In several States, the statute on open accounts is 6 years. Therefore, based on your own past experience, you may decide that it will be sufficient to keep vouchers for small sums (say under $50) for only 3 years.

Four Key Questions

Ask yourself these four questions about every record type for which you want to establish a retention period: (1) What are the legal requirements for this type of information? (2) If there are no formal legal requirements, is there an applicable statute of limitations? (3) If so, how long a period does it state? (4) What would happen if this record were not available for reference?

By measuring your records against these yardsticks, you can use facts instead of conjecture in making sensible records decisions. For example, some organizations are

so cautious that they keep cancelled payroll checks for the "safe" period of 20 years. In reality, legal requirements range from 3 to 6 years. Thus, these firms spend money needlessly to store cancelled checks anywhere from 14 to 17 years beyond any real need.

Specific Record Groups

The following summary of typical record groups includes an explanation of the factors to watch in setting a retention period for each type of record.

ACCOUNTING, GENERAL (journal,s ledgers, trial balance).—Journals and ledgers mean different things to different companies. The General Ledger, as the basic summary accounting record, is usually retained permanently. The subsidiary journals and ledgers are required only for internal administration and need be retained only through periods of actual use by the accounting department, auditors, or top management. Trial balances are working papers that need be retained only through final audit.

ACCOUNTS PAYABLE (general cancelled checks, cancelled payroll checks, vouchers).—While cancelled general checks may be retained for the number of years defined in each State's statute of limitations (average of 6 years), some companies keep payroll checks for only 2 years. Cancelled payroll checks can create a volume problem. The greatest activity is in the first few weeks after issuance, and usually falls to next to nothing after the first year. Vouchers are always a bulk problem. Rather than keep them all for 6 to 20 years, breaks can be made between plant vouchers (retained permanently), operating vouchers (retained for an average of 6 years) and petty cash vouchers (retained for an average of 1 to 2 years). This holds for originals only. Further breaks might be made by dollar value. It pays to limit retaining copies of these vouchers for a minimum number of weeks or months.

ACCOUNTS RECEIVABLE (billing copies of invoices, credit-memo invoices, accounts receivable ledger).—Management's chief concern is in the unpaid invoices. Paid invoices—particularly large-volume, small-dollar-value items—may often be disposed of within 6 months to 2 years. Most complaints on payment or amount of payment are received within this period. Equally important is minimum retention of any invoice files that duplicate the basic record (arranged by customer or by invoice number). Only those invoices connected with items of new design or the first item of a patentable product require long indefinite retention. The accounts receivable ledger, as a basic summary of credit sales, need be kept only so long as it is a ready index to invoices or total daily sales. Where there is no other summary of sales, it may be useful to retain it indefinitely for historical purposes.

LEGAL (contracts, copyrights, patents, trademarks, suits).—Copyrights, patents and trade-marks are usually retained permanently. Contracts are more often kept for 6 years after expiration, but when renewed annually are generally kept for shorter periods. Records on law suits are typically kept for 6 to 10 years after settlement. Bulky work papers and routine notes connected with contracts and suits should be cleaned out as soon as the matter is legally completed.

PAYROLL (earnings records, payrolls, pension records).—The basic legal requirements are: (1) Internal Revenue Service—4 years for earnings records (Federal Insurance Contributions Act and Federal Unemployment Tax); (2) Department of Labor, Wage and Hour Division—3 years for payrolls, 2 years for earnings records; and (3) the Department of Labor, Division of Public Contracts—4 years for wage and hour records. Pension records are usually retained permanently and may often serve as the earnings record as well.

PERSONNEL (applications for employment, attendance records, time clock cards, employee history records, personnel folders).—Where a company maintains both employee history cards and personnel folders, the history cards may be destroyed within 1 year after termination of employment. An exception to the latter might be the top executive personnel data. Employment applications should be kept only for jobs or persons where the company anticipates action in the near future. Attendance records, time clock cards, and related data should be handled as a package: where this information is summarized on project or payroll records, the bulky initial records may be discarded within 6 months.

PRODUCTION (job tickets, maintenance records, operating reports, production orders).—Job tickets and production orders are really only of value in processing the order through the factory or when the customer raises questions on delivery or quality. These points come up in the initial months after shipping. Actual production orders are the only ones that warrant retention beyond 1 year. And of all the records for one order (e.g., job ticket, shipping ticket, bill of lading) only one need be retained in the original. Most information is repeated from one form to the next. Maintenance records are usually retained for the life of the equipment on which the data is compiled. Monthly operating reports on production are valuable up to 2 years. Annual operating reports should be kept permanently for historical and management purposes.

PURCHASING (bids, purchase orders, receiving reports, purchase requisitions).—Purchase orders should be broken down into categories for retention purposes: major equipment, expendable supplies and materials, and the like. Major purchase records, particularly where specifications are included, might be kept for 6 years. Routine items may be cut to 3 years and still stay within legal requirements on proof of local purchase and on records of use for tax purposes. Purchase requisitions need be retained only until the items are received—since the data is covered on the purchase order. Receiving reports are usually supporting documents for the accounts payable vouchers and are retained accordingly. Bids are kept after a contract is let out only so long as management wants them for post-audit purposes, and so long as purchasing agents may need them as references for the next contract for the same service or items.

REAL ESTATE (deeds, leases).—Deeds, right-of-way, and easements are usually retained permanently; leases for 6 years after expiration. If leases are renewed annually, they may be kept only for the current year plus 1.

SALES (correspondence, customer orders, salesmen's reports).—Sales correspondence on deliveries, acknowledgements, bids, and so on, need only be kept at the most 30-60 days for possible answer and follow-up. Policy letters should be segregated and retained permanently. Customer orders in sales departments are only copies of Accounts Receivable files and should be kept, it at all, for minimum periods. Salesmen's reports on individual sales, and expenses, are important only for immediate review. They warrant keeping for only a few months.

SECRETARY (annual reports, by-laws, minutes of stockholders meetings, cancelled stock certificates).—The first three items are usually kept permanently. Cancelled stock certificates are not governed by any Federal legal

(*Turn to page* 44)

What You Should Know About Combustion

By MORRIS B. GROSS
Consulting Engineer

IN A MODERN CONCRETE PLANT, where steam is used for curing or for heating aggregates and water, the cost of the fuel used can be a major operating expense. A little knowledge regarding fuels and their combustion is therefore highly desirable.

Combustion may be defined as the chemical combination of a substance with oxygen with the resultant evolution of heat. There are three types of combustion: complete, perfect and incomplete.

Complete combustion is combustion obtained when all the combustible elements in the fuel combine chemically with all the oxygen that is required. An excess of oxygen may be present and not utilized.

Perfect combustion is combustion obtained when all the combustible elements in the fuel combine chemically with only the required amount of oxygen. All the oxygen present in the air is utilized for combustion.

Incomplete combustion is combustion obtained when all the combustible elements in the fuel do not combine chemically with oxygen because there is insufficient oxygen present.

The complete combustion of a given unit of any fuel results in the liberation of a definite amount of heat. This heat is known as the heat of combustion, or the heating value of the fuel and is usually expressed in B.T.U. per pound, B.T.U. per gallon or B.T.U. per cubic foot. The heating value of any fuel may be determined from the chemical equation of the fuel.

Since the presence of oxygen is one of the requirements necessary for the combustion of any fuel, a little knowledge of the air required for the combustion of various fuels is essential. The theoretical air requirements for perfect combustion may be calculated from long and involved chemical formulas. For all practical purposes, the amount of air required for perfect combustion may be determined as follows:

For solid or liquid fuels the pounds of air required per pound of fuel equals .000755 times the heat of combustion.

For gaseous fuels the cubic feet of air required per fuel unit is equal to .01 times the heating value of the fuel per unit.

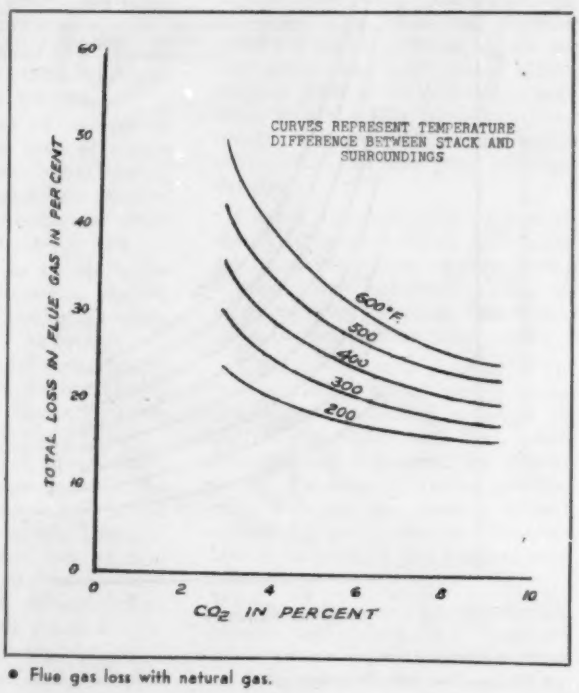
The average air requirements for some of the various fuels for perfect combustion are as follows:

Anthracite coal ..... **9.6# of air per pound of coal**
Semi-Bituminous coal ..... **11.2# of air per pound of coal**
Bituminous coal ..... **10.3# of air per pound of coal**
Coke ..... **11.2# of air per pound of coal**
#1 Commercial Std. Oil ... **102.6# of air per gallon of oil**
#2 Commercial Std. Oil ... **105.5# of air per gallon of oil**
#5 Commercial Std. Oil ... **112.2# of oil per gallon of oil**
#6 Commercial Std. Oil ... **114.2# of oil per gallon of oil**
Natural gas ..... **10 cu. ft. of air per cu. ft. of gas**
Mixed gas ..... **8 cu. ft. of air per cu. ft. of gas**
Manufactured gas ..... **5.2 cu. ft. of air per cu. ft. of gas**
Butane ..... **31 cu. ft. of air per cu. ft. of gas**
Propane ..... **23.8 cu. ft. of air per cu. ft. of gas**

The above quantities of air are the amounts required for perfect combustion. The maximum carbon dioxide (CO_2) resulting from the perfect combustion of the various fuels is shown in Table 1.

TABLE I—THEORETICAL AND PRACTICAL PERCENTAGE OF CARBON DIOXIDE FROM THE COMBUSTION OF FUELS

Fuel	Theoretical	Practical
Coke	21	12-14
Anthracite	20.2	12.14
Bituminous Coal	18.2	13
#2 Oil	15	10.5
#6 Oil	16.5	13.5
Natural Gas	12	8.7
Manufactured Gas	11	8.5



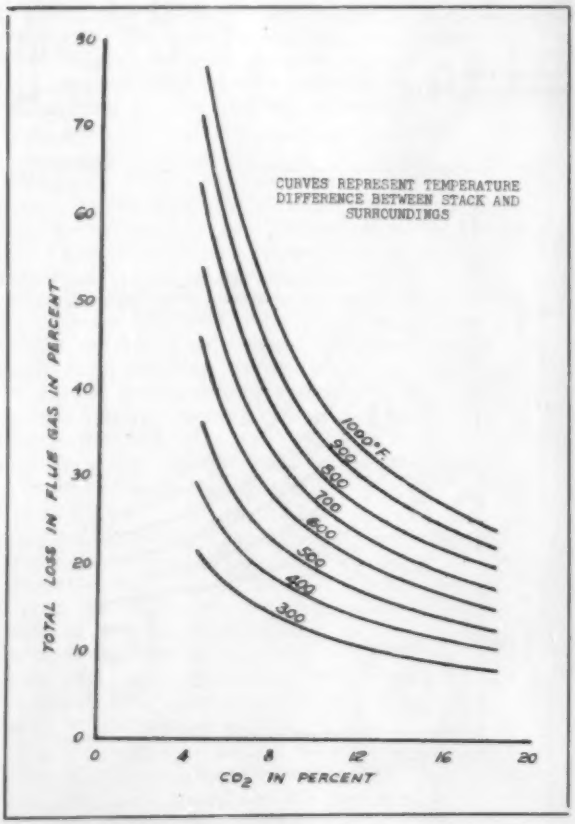
• Flue gas loss with natural gas.

In actual practice, perfect combustion is seldom achieved because of the fact that it is almost impossible to obtain the ideal firing conditions. Table I also shows the percentage of carbon dioxide (CO_2) that should be obtained in firing various fuels in an efficient and practical manner.

The efficiency of combustion may be determined from an analysis of the amount of carbon dioxide (CO_2), carbon monoxide (CO) and oxygen (O_2) present in the flue gasses. An exact determination of these gasses may be made by chemical analysis. The carbon dioxide reading will give one the indication of the percentage of combustion taking place, the oxygen the indication of the amount of excess air present, and the carbon monoxide the indication of the incomplete combustion taking place. For all practical purposes the carbon dioxide reading and the temperature of the flue gas will serve to provide an excellent check on the efficiency of combustion. The accompanying charts show the relationship existing between the carbon dioxide readings and stack temperatures for natural gas, bituminous coal and oil.

In order to obtain proper combustion of any fuel, certain general requirements are necessary, viz:—

- **The admission of an air supply that will allow sufficient oxygen being present to permit complete combustion.**
- **The admission of the air should be at such time and in such a manner as to permit the oxygen of the air to come into close contact with the combustibles in the fuel.**
- **The gases must be maintained at or above the ignition temperature until combustion is complete.**
- **Sufficient heat absorbing surface must be present.**
- **Heat absorbing surfaces must be kept clean.**
- **Sufficient volume must be present to allow for the expansion of the gases during the period of combustion.**

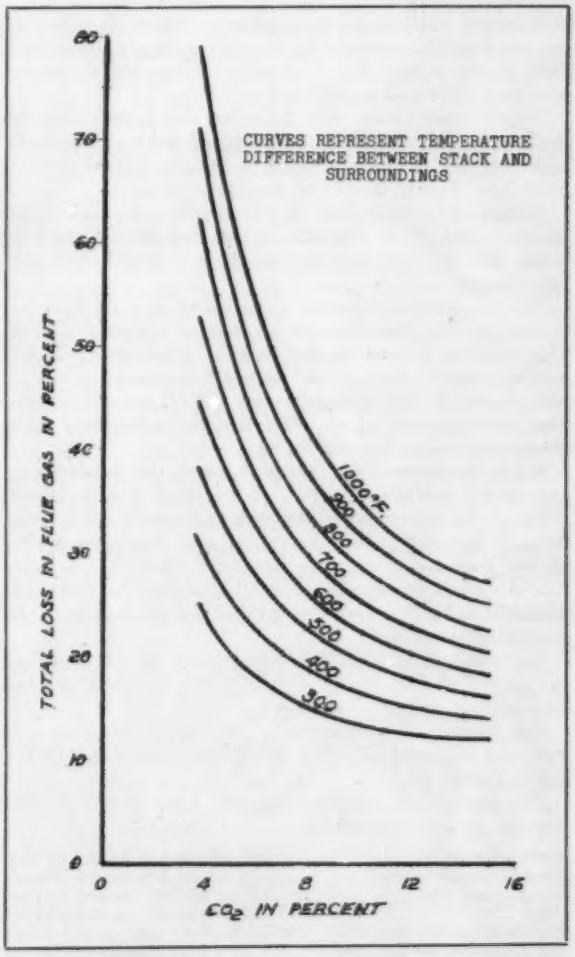


• Flue gas loss with bituminous coal

Of what interest to concrete products producers is the above information? In the curing of block with live steam, the amount of fuel used is proportional to the number of block made and the efficiency of boiler in producing steam. For a well designed steam curing system, and with a boiler operating at 80 per cent efficiency with 15 per cent piping loss, a block manufacturer should be able to steam cure, with oil as a fuel, approximately fifty 8-inch equivalents per gallon of oil fired. Based on a production rate of 1,000,000 8-inch equivalents per year, the oil consumption would be approximately 20,000 gallons. This assumes a net delivery of steam to the kilns of 68 per cent of the heat available in the fuel oil. If the combustion efficiency were dropped to 70 per cent with a 15 per cent piping loss, the net delivery to the kilns is only 59.5 per cent of the heat available in the fuel oil. This would result in the burning of more fuel per million block in the ratio of 68 to 59.5 or 1.14 times as much oil. This means that 14 per cent of 20,000 gallons of oil, or 2,800 gallons of oil, were wasted per million 8-inch equivalents. In a high production plant such needless consumption of fuel can represent a considerable loss.

It is of importance therefore that the boiler operator know something of the basic conditions necessary for proper combustion, and that he understand the use of the

(*Turn to page 42*)



• Flue gas loss with fuel oil.

Notes On Coloring Concrete Block

By WILLIAM GRANT
Consulting Engineer

Attractively colored concrete masonry units of various types are gaining in popularity. If certain precautions are observed in the production of such units satisfactory results are assured. Coloring pigment suitable for use in concrete should meet the following requirements:

It should be of a composition which will not react chemically with the lime of the cement to the detriment of either cement or color.

It should be durable under exposure to direct sunlight and also in a lesser degree to diffused daylight.

It should possess adequate tinting qualities.

These requirements may best be met by the use of either natural mineral or manufactured mineral oxide colors. Organic dyes are sometimes used but these colors tend to fade when exposed to sunlight, or they may be decomposed by chemical action. However, for concrete products for interior use, these may be satisfactory inasmuch as there is not enough strong sunlight to cause appreciable fading. Organic dye pigments are characterized by brilliance of hues not otherwise obtainable. This type of coloring pigment is generally described as "interior color."

Natural mineral pigments are prepared from ores by grinding or calcining (heating), washing and subsequent grinding of the ore.

Manufactured (synthetic) mineral pigments are obtained from metal salts by precipitation, calcination or other methods.

Where dull colors are acceptable, natural mined oxides may be used. More of the natural pigment will be required than of the manufactured pigment, in the approximate ratio of 2 to 5 pounds of natural pigment of the same hue, to 1 pound of the manufactured pigment.

Pigments which are manufactured for coloring mortar are generally unsuitable for coloring concrete because they sometimes contain filler material.

Manufactured oxide pigments produce brighter hues and have stronger tinting qualities but are slightly more costly. They can be more rigidly controlled as to shade, particle size and purity. The finer the pigment the more easily dispersed it will be through the cement and other materials in the concrete.

The following outline will serve as a guide for the selection of pigments for use in coloring concrete.

Iron oxides either of natural or synthetic origin are used to obtain shades of red, yellow, black, brown, buff or tan. These oxides are relatively unaffected by sunlight or by alkali and are reasonably low in cost.

The synthetic oxides are preferable because of their attractive shades, purity and higher tinting strength. Natural oxides vary in strength of color and purity and may contain soluble salts which might develop efflorescence on the face of the finished units.

For a brilliant dark green shade, chromium oxide, when pure, is unequaled for permanence and is not affected by acid or alkali. This pigment, however, should not be confused with a group of pigments commercially known as chrome greens which are not alkali resistant.

In the range of blue pigments there is nothing completely satisfactory in the low price class. Blue cobalt oxide has greater permanency of color than any of the other blue pigments, but its high cost limits its use. The pigment most commonly used is known as ultramarine blue. This pigment frequently undergoes a slow reaction with concrete during curing and may tend to fade from the inside to the outer surface of the unit. Only pigments specially manufactured for concrete should be used.

Manufactured pigment is most frequently used for black. Natural black iron oxide is also satisfactory but is usually more costly. When selecting this color, a jet black hue, because of its non-fading qualities, should be used rather than a blue toned black. Another form of black coloring material is a specially treated carbonaceous black which mixes readily with water and has good coloring strength.

Certain manufactured pigments should be avoided. Weak iron oxide colors, prussian blue, chrome green, chrome yellow and certain forms of black pigments are unsatisfactory because of their fading tendencies.

Whether or not a pigment is affected by alkali (lime) can be easily determined by shaking a sample of the color material with lime water and allowing it to stand for several hours. Pronounced fading of the color indicates the material is unsuitable for use in concrete. Prussian blue is an example of a pigment thus affected.

Mixtures of coloring pigments will produce any desired shade. Depth of color, or varying shades from light to dark, are obtained by controlling

the amount of pigment or by mixing two or more basic colors such as red, yellow, blue and black.

For instance, green hues are produced from a blend of blue and yellow; orange hues are blends of red and yellow; while brown hues are the product of blends of red and black.

Variations in the color of the materials and the pigments themselves, make the color formulas only approximate. Best results can be obtained by experiment or trial, keeping in mind that test panels of concrete will be darker when they are damp. Arrangements can usually be made with the pigment manufacturer to supply any special color developed.

When dark colors of concrete are desired, ordinary portland cement may be used in the concrete mix. For the lighter shades such as blue, green, tan and orange, white cement must be used to obtain maximum color value.

It is desirable to keep a detailed permanent record of each blend, also data relating to the treatment as well as the materials used in making the concrete. Such information is necessary if results are to be duplicated.

Pigment should always be added by weight rather than by volume. The amount of pigment, expressed in percentage or pounds, is always based on the weight of the cement only. The weight of the aggregate is not considered.

In coloring concrete units, pigment should be used integrally. If the surface coatings are applied, any chipping or breaking would be visible in the uncolored portion of the block, thereby spoiling the over-all color effect.

When the color manufacturer's specifications mention weight of coloring pigment per sack of cement, such instructions should be followed carefully.

Generally, pigments may be safely used in amounts up to 10 per cent of the weight of the cement; that is, 9 pounds of pigment per 94 pound sack of cement. It is not advisable to exceed the 10 per cent addition of color in any concrete mix, since larger quantities may reduce the final strength of the product. This limit, however, may be exceeded with some pigments and under certain conditions.

Pigment should be at least of the same fineness as the cement. The finer the pigment the greater will be the coloring power.

The successful use of color pigment requires thorough dry mixing with the cement to insure that it is uniformly distributed. The colored cement is added to the aggregate and again thoroughly mixed before the water is added.

Control of the amount of water in a colored concrete mix is very important. Fluctuations in the amount of water per batch will give variations in the intensity and shade of the resultant concrete. In addition to affecting the color, too much water will tend to increase the possibility of efflorescence. Therefore, it is important that the mixes be kept as dry as possible to minimize efflorescence. Too much water also tends to cause "gumming" of the cement paste, which slows up machine production.

If sufficient curing space is available colored units should be cured for as long a time as possible at a temperature between 70 and 100 degrees F. In high production plants, however, units may be steam cured at a temperature above 100 degrees F., provided the curing and subsequent drying conditions are carefully controlled.

Experience shows that even where high temperature curing is used, satisfactory results can be obtained if proper attention is given to the presetting of the units. A presetting time of 6 hours is much better than a 2-hour period. Where units can be held for any period up to 24 hours before steaming, color intensity and other qualities will be benefited. Units should be yarded off the ground and preferably under cover.

It is evident that in order to obtain uniform and good results there should be control by weighing the aggregate and color, proper mixing and metering or weighing the water and proper curing.

Certain properties of cement colors may be determined by the user by means of simple tests. The tests described here require neither great skill nor elaborate apparatus.

TEST FOR FADING—To 2 ounces of dry color in a suitable sized bottle add sufficient distilled water to make a creamy mixture after thorough shaking. If the coloring material floats on top of the water, it

will be unsatisfactory for use. Next divide the contents of the bottle, pouring half the solution onto a glass plate. To that portion remaining in the bottle, add ¼ ounce of chloride of lime, shake well and pour this solution onto another glass plate. Compare the solutions on the separate plates to determine what effect the chloride of lime has on the color. Any fading or mottling is cause for rejection of the pigment.

TEST FOR LIGHT RESISTANCE—Prepare a stiff paste of the pigment with distilled water. Pour a portion of the paste onto a glass plate and cover with another glass plate. Press the plates together until there is a layer about ⅛ inch thick, then bind edges of the assembly with adhesive tape. Cover one half of the plate with black paper, then subject the assembly to sunlight or artificial rays for a week or more. When the covered and uncovered sections of the pigment are compared, the light resistant quality is readily apparent.

TESTS FOR FINENESS AND IMPURITY—Half fill a cup with dry color, add sufficient distilled water and stir. When contents of cup have settled, draw off the water and dry the cake by artificial heat. Break the pat and view the fracture by means of a magnifying glass. If the pigment has been finely and evenly ground, the pat should not show evidence of stratification between the coarse and fine material, nor any change in color. If the pat is not readily friable between the fingers, the indication is that the pigment may be adulterated. Next add a few drops of diluted hydrochloric acid to the face of the fracture, any evidence of effervescence (fizzing) is indicative of chalk or lime which is an adulterant. If any of these detrimental factors are apparent, the pigment should be rejected.

■

William Demarest Joins Home Builders Assn.

William Demarest of Washington, D. C., has joined the National Association of Home Builders as an assistant director of the construction department and research institute, according to an announcement by John M. Dickerman, executive director of the organization. Mr. Demarest was formerly modular coordinator in the national headquarters of the American Institute of Architects.

Combustion

(*From page* 38)

necessary instruments to determine same. It takes only a few moments to use the instruments and make the necessary adjustments to the fuel air ratio to maintain the maximum combustion efficiency. Daily conditions of fuel temperature, air temperature and draft can cause wide variations in the efficiency of combustion. In a plant where a large quantity of fuel is burned, neglecting to check this one item can waste considerable money.

The following problem provides an example of the use of the charts (pages 37 and 38) showing flue gas losses for various fuels:

The fuel used is natural gas and the temperature of the flue gases is 470 degrees and the analysis of the gases shows a carbon dioxide content of 7 per cent and the room temperature is 70 degrees.

Subtract from the flue gas temperature of the room (470 − 70 = 400°). Refer to the chart for natural gas. On the horizontal line, locate the 7 per cent CO_2 point and proceed vertically to the intersection with the 400-degree temperature line. Then proceed horizontally to the left to read percentage fuel loss in flue gases (22 per cent). The difference between 100 per cent and this percentage (100 − 22=78) represents the combustion efficiency of the burner. The same procedure should be followed in using the charts representing fuel oil and bituminous coal.

■

Ready Mix Producer Ups Cement Storage Capacity

Sam Falbo, president of Terminal Ready-Mix, Incorporated of Lorain, Ohio, isn't taking any chances on being adversely affected by a shortage of portland cement this summer. He has just completed the construction of an 80-foot high, 7,500-barrel capacity concrete silo for the storage of this vital raw material. The new silo, one of the largest in Ohio, will make it possible for Mr. Falbo's company to purchase and store cement during the spring months for use when construction is at a peak.

The new silo has a storage capacity of about 21 standard carloads of cement. Built at a cost of approximately $25,000, it supplements two smaller silos and two bins which have a combined capacity of about 9 standard carloads. The construction project was handled by the Marietta Concrete Corporation of Marietta, Ohio.

■

Canadian Cement Maker Sees Oversupply This Year

J. M. Breen, president of Canada Cement Company, told the firm's recent annual meeting of stockholders that in his judgement the production of portland cement in Canada by the end of this year may exceed consumption by a wide margin. He expressed the view that from 1957 on, the primary problem of Canadian cement producers will be to keep their plants operating at capacity levels.

Mrs. Breen stated that in his judgement no further expansion of output will be required for a good many years. He pointed out that during 1956 Canada Cement will invest approximately $21,750,000 in new plant and equipment, bringing total expenditures since the end of World War II to $86 million. The company's productive capacity has been increased from 10 million barrels in 1945 to an anticipated 24 million barrels by the end of 1956.

LETTERS

It Seems We Goofed

Sir:

The article in your March issue (page 43) entitled "Dry Block With Propane Gas" creates the distinct impression that we (Smithwick Concrete Products) were reluctantly forced to dry our block by the U. S. Corps of Engineers. I don't know where the author obtained his information, but this is by no means the case, for our company has been in the vanguard since its founding in attempting to raise the quality standards of concrete products. We were not coerced by anyone, for we had been diligently searching for the most efficient method of drying our block, and as soon as we determined the best method, we proceeded on our own initiative. The article goes on to state "the hard boiled engineers ordained that blocks had to be lighter and stronger, and the range of permissible moisture content in cured blocks had been narrowed almost to the point of impossibility. . ." Actually the Corps of Engineers has not changed its specifications in the slightest respect for many years so far as the weight or the strength of the unit are concerned. The moisture content specified is by no means impossible to achieve; in fact, it is not even difficult. Our Haydite plant was put into production in the early spring of 1950, again upon our own initiative. We have experienced no difficulty whatsoever in meeting strength tests, and the army engineers have never, to my knowledge, specified a unit weight that we could not meet. Incidentally, far from being "hard boiled", I have always found the District Office personnel of the U. S. Corps of Engineers high class gentlemen, and it has been a gratifying experience to work with them in friendly collaboration in the design and construction phases of buildings where our products were used.

Again quoting from the article: "One of the projects to which Smithwick was furnishing the blocks was the gigantic Dalles Dam, 60 miles up the Columbia River from Portland, and the specifications for material going into the mammoth construction were rigid. Anti-cracking qualities stipulated by the government's top brass were well nigh impossible to achieve with the conventional concrete-curing equipment in use by many companies." The fact of the matter is, there was not a single block used in the construction of the dam or its appurtenances.

According to the article, we had experienced great difficulties with "block dryers operated by fuel with which it was necessary to install humidifiers or use applications of steam to prevent case hardening caused by too dry an atmosphere inside the drying chamber." The fact of the matter is, we previously used no drying chamber whatsoever. We had, according to the article, "made the happy discovery that the water formed in the products of combustion from the propane gas completely eliminated the need for any special humidification devices. And the severe cracks which frequently occur in blocks dried in other ways were banished completely by the new method." Actually we have, for the past 5 years, had practically an unbroken record of success in eliminating cracks entirely in buildings constructed with our products — long before we had installed the drying chamber. I do not like the inference in the article that we had experienced considerable difficulty from cracking.

S. Carl Smithwick

Records Retention —

(*From page* 36)

requirement (except for regulated companies) and may be destroyed at the discretion of the company. However, most firms keep a formal certificate of destruction.

TAX (purchase-and-use tax returns, State and Federal tax returns).—Regulations on purchase-and-use taxes usually state that a city must announce its intentions to act on a company's returns within 3 years. There is no limitation, however, in case of fraud. The same holds true of State and Federal returns. The purchase-and-use tax statements are usually retained for 3 years. State and Federal returns, being more involved, are retained at least 6 years, often permanently. Work papers may be destroyed within the minimum periods.

TRAFFIC (bills of lading, freight bills, packing lists).—The only legal requirement on these items is on "order, shipping and billing records"—Department of Labor, Wage and Hour Division—for 2 years. However, there is rarely need for more than one official record to cover any one shipment (see also preceding section on Production).

Operating Under A Retention Schedule

While the core of a sound recordkeeping program is an accurate retention schedule, an efficient system also means that you. . .

(1) Know what records, and how many of them you have. A physical inventory should be taken of all your records, preferably under the direction of the person who is responsible for the entire operation. It is not necessary to examine every single piece of paper, only the different groups of records. Using a separate sheet of paper for every record type, record the following facts: (a) type of record (checks, accounts payable, employment applications and the like); (b) period covered, beginning and closing dates; (c) department that has jurisdiction over the record—such as, sales, shipping, or accounting; (d) location of the record; (e) kind of equipment the record is in; (f) volume in cubic feet—letter-size drawers usually contain 1.6 cubic feet, and legal-size 2 cubic feet; (g) amount of space occupied by files and by shelving for records.

(2) Learn how much use is made of each record type. Have a reference analysis made over 3 to 6 months to see how frequently a given type of record is actually used. This information will give you a factual basis for ear-marking records for retention, destruction, or storage in a low-cost records center.

(3) Set up a low-cost records center. Once you know what records you have, how often they are used, and how long to keep them, you are prepared to realize substantial dollar savings in equipment, space, and personnel by scheduling inactive records for transfer to a new-type records center. Such a center can insure both better reference service and economy if you locate it in low-cost space away from the office and institute a reference system. You can use the center for records that must be kept permanently, and for those not yet old enough to be destroyed or sold as waste paper.

MANUFACTURERS' NOTES

Worthington Announces Merger

Hobart C. Ramsey, chairman of Worthington Corporation, and Eldon MacLeod, president of the Mason-Neilman Regulator Company of Boston, Massachusetts, have announced an agreement for the transfer of the net assets, name and goodwill of Mason-Neilman to Worthington in exchange for Worthington common stock.

The merger will unite two manufacturers in complementary fields. Mason-Neilman control valves and regulators, in conjunction with Worthington pumps, compressors, turbines and other types of industrial machinery produced by Worthington, are used in automatically controlled production systems.

Chain Belt Distributors

The construction machinery division of Chain Belt Company, Milwaukee, Wisconsin, recently announced the appointment of the Illinois Tractor Company, Mt Vernon, Illinois, and P-D Service, Inc., of Pavilion, New York and Buffalo, New York, as distributors of Rex construction machinery.

The Illinois Tractor Company will operate in that part of the state of Illinois east of and including the counties of Bond, Clinton, Washington, Perry, Jackson, Union and Alexander. South of and including the counties of Marion, Clay, Richland and Lawrence.

P-D Service, Inc., will operate as a Rex distributor in that part of New York state, west of and including the following counties: Wayne, Seneca, Schyler and Steuben.

Punch Card Batching

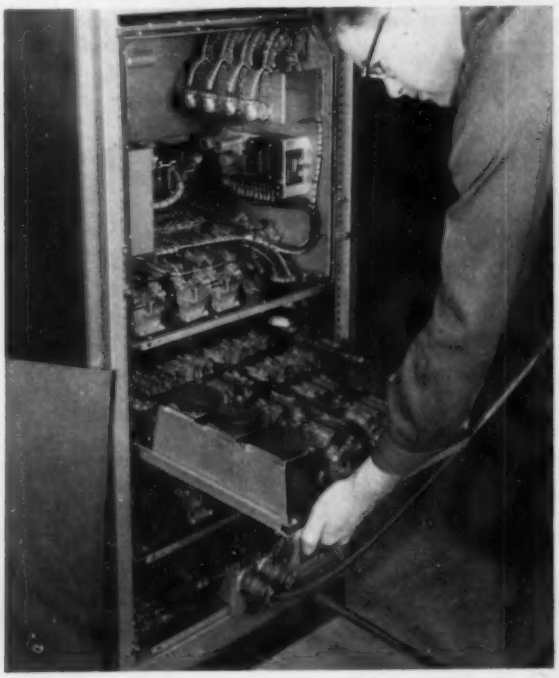
An electronic weigh batching system that will work in conjunction with IBM's punch card system has been perfected after some 30 months of development and testing. According to the manufacturer, it unites the speed and accuracy of electronics with commercially acceptable weighing units.

The new unit is housed in a compact console, no larger than a standard filing cabinet. Through the use of IBM punch cards, the unit instantly and automatically selects and weighs out the precise amount of any number of materials. The combinations of material weights and selections are unlimited and can be changed instantaneously. Where repetitive batches are required, the device provides for automatic recycling. A moisture compensating feature makes it possible to eliminate the problem of compensating for moisture by weight. A simple control holds the moisture percentage to the amount desired.

The system has a controlled closed circuit that practically eliminates the possibility of malfunctioning due to vibration, moisture or dust. It has been designed specifically for commercial and industrial applications. Pushbuttons for all controls are provided for manual batching of individual materials.

To facilitate maintenance and keep "down time" to a minimum, all major components of the machine have been grouped and set on individual drawers which can be quickly removed, or mounted on panels that swing into a position for easy repairing. For additional information regarding the Helco-matic Batchmaster write to The Heltzel Steel Form and Iron Company, Warren, Ohio.

● LEFT: To get any batch required the operator simply inserts a punch card in the slot provided. This automatically activates the Helco-matic which controls the weighing apparatus, gates and valves to weigh out the desired mix. RIGHT: All major components are unitized for ease of maintenance. They are mounted on free sliding drawers that can be replaced quickly.



Bin Modification

Modification of a standard cement bin to serve two separate operations has resulted in increased production and economies at the Thomasville Concrete Products Company, Thomasville, Georgia. The single 600-barrel cement bin now serves the company's concrete block plant as well as a fleet of truck mixers. The idea of adapting the bin to serve dual purposes was developed jointly by the concrete firm, Contractors Equipment Company of Atlanta, Ga., and the bin manufacturer's engineers. R. E. Willis, general manager and partner of the firm, says, "The installation works perfectly and we haven't a complaint." The installation was completed last August.

The modification to the standard bin was relatively simple. Discharge of weighed batches into truck mixers is done in the conventional manner. But, to move cement to the adjacent block plant, it was necessary to cut an oblong hole in the cone shaped hopper section of the bin. A 36-inch collar was fastened to this opening. Attached to the discharge end of the collar is a 9-inch diameter by 28½-foot long screw conveyor. The screw in turn empties into a hopper which automatically weighs batches for the block plant.

In order to regulate the flow of cement to the block plant, two sets of baffles were installed. One set is located in the downspout, forming a throat to the screw, thus regulating the gravity flow of cement. The second baffle is circular in shape and mounted inside the screw conveyor housing. This prevents clogging and packing in the screw conveyor housing.

Contemplating future growth, this main bin has been placed so that a 400-barrel auxiliary bin can be attached without disrupting operations or relocating any machinery or buildings. The original cement bin was manufactured by Blaw-Knox Company, Farmers Bank Building, Pittsburgh, Pennsylvania.

● Detail showing the collar through which cement flows from the bin into the screw conveyor which feeds the adjacent block plant.

● General view of the 600-barrel cement bin which now serves a busy block plant as well as a fleet of truck mixers.

Sonneborn Canadian Plant

Opening of a new Canadian plant and sales headquarters for its line of building maintenance and construction materials was announced recently by the building products division of L. Sonneborn Sons, Inc., New York. New York, petroleum refiners, manufacturing chemists and producers of building maintenance products.

Purchases Tel-A-Slump

Paul M. MacKinney, formerly vice president of Imperial Construction Equipment Company, Northlake, Illinois, has purchased all rights to the Imperial electric Tel-A-Slump. All communications should be addressed to Concrete Controls Corporation, 1012 East Geneva Road, Wheaton, Illinois.

Blaw-Knox Director

William Rodgers, sales vice president, has been elected a director of the Blaw-Knox Company, according to an announcement by W. Cordes Snyder, Jr., President. Mr. Rodgers joined the company in 1953 in the post of general sales manager and later in the year was elected vice president.

Yale & Towne Promotion

Carl O. Hedner, sales executive of The Yale & Towne Manufacturing Company for the past 33 years and sales manager of hoisting equipment since 1931, has been named assistant general sales manager of the company's materials handling division.

MANUFACTURERS' NOTES

New Industrial Division

B. R. Bermann

A new Industrial Division has been established by Massey-Harris-Ferguson, Inc. to market a full line of light and medium duty industrial wheel tractors and allied equipment, according to an announcement by L. W. Sweeney, vice president in charge of sales. B. R. Bermann, formerly general service manager of the Ferguson Division, has been named sales manager of the new M-H-F Industrial Division.

Solite Appointment

H. E. Seifert

Harry E. Seifert, formerly director of the Bureau of Industrial Hygiene of the Virginia Department of Health, recently was named to head the new process engineering division of the Southern Lightweight Aggregate Corporation, which manufactures Solite in Virginia and the Carolinas. The division will market a process designed to control industrial air pollution, according to J. W. Roberts, company president.

Mixermobile Appointments

V. C. Dirksen

Three executive appointments have been announced by Mixermobile Manufacturers, Portland, Oregon. V. C. Dirksen has been placed in the position of sales manager, Glen Ede has been named sales promotion manager and J. M. Larson is the new controller. Both Mr. Ede and Mr. Larson are new with Mixermobile. Mr. Dirksen has been with the company since the business first began, the past seven years as Mid-Western representative.

G. Ede

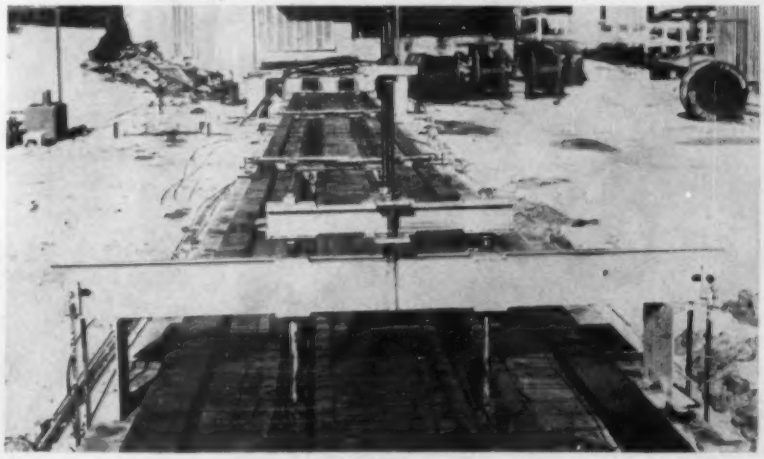
J. M. Larson

Joins Reo Motors

W. H. Emery, former St. Louis branch manager for Autocar, has joined the sales staff of Reo Motors, Inc., at St. Louis, according to a re-

Camber Control

***The device shown below provides a means of controlling camber in 420-foot-long prestressed double tee beams. It is manufactured by the Florida Division of the Food Machinery & Chemical Corporation at Lakeland, Florida.**



Symons Forms Do Another Good Turn For Ready-Mix

A freak accident demonstrated the ruggedness and strength of Symons Forms. A 20-ton ready-mix truck, backing up to pour concrete at a house under construction, got too close to the edge of the excavation, softened by rains and toppled over on the Symons Forms. The forms supported the loaded truck's full weight. After the removal of the truck, the contractor was able to straighten the poured walls by replacing the waler and adding two braces. The completed wall showed no signs of damage.

INCREASE YOUR BUSINESS with SYMONS FORM RENTALS

Because concrete forming is one of the first construction steps, many Ready-Mix and Building Material Dealers are renting Symons Forms to local contractors. Contractors find that these strong, easy to erect forms save them considerable labor and time, and insure safety no matter how fast the mix is poured.

Symons Form Rental bring the Dealer—*new ready-mix customers, added rental profits, repeat sales of hardware and ties, additional lumber and plywood sales, increased building material sales and customer satisfaction.*

Samples, specifications, actual job photos, literature and forms layouts for building your own Symons Forms are available upon request. However, for guaranteed accuracy and low labor cost, we recommend factory made forms. Rentals apply on purchase of these pre-fab forms.

Symons

SYMONS CLAMP & MFG. CO.
4257 Diversey Avenue, Dept. D-6
Chicago 39, Illinois

Please send complete information on how I can start in the Symons Form Rental business.

Name_____

Firm Name_____

Address_____

City_____ Zone____ State_____

cent announcement by George M. Wilkins, southwestern regional manager for Reo.

Chain Belt Promotions

Chain Belt Company has announced promotions for management and engineering personnel in its conveyor and process equipment division. J. W. Snavely has been named assistant manager of the division, and he will also continue as manager of conveyor sales. Formerly chief engineer for conveyor equipment only, B. G. Schneider has been named chief engineer of the division.

J. W. Snavely

B. G. Schneider

Gocorp Representative

V. Monsell

The Gene Olsen Corporation, Adrian, Michigan, has appointed Vaughn Monsell to their sales staff. He will represent them in California, Oregon, Washington, Idaho, Nevada and Arizona. Mr. Monsell's business experience has been directly allied with the building industry in many of the Western states.

Hyster Promotion

W. A. St. Clair

Walter A. St. Clair has been promoted to assistant sales manager of Hyster's Eastern industrial truck division. He has been associated with the company for ten years and most recently served as district manager for the Mid-Central district. In his new position, Mr. St. Clair will work with all phases of Hyster's Eastern industrial truck sales.

Dodson's Digest

Fred Hooper has a crisis on a concrete-silo job

Received a call the other day from Fred Hooper. Got to know Fred, because he's a regular customer at Marie's Cafe, the small restaurant where I drop in for coffee now and then.

Fred started as a truck driver—manhandling one of those giant 6-yard transit-mix jobs for a local concrete company . . . now he owns the business. What's more, he's finicky about concrete additives—even water. He's got the respect of every contractor in town, because he refuses to lower the strength of delivered loads.

It was during a sudden cold snap that the call came through—hit the area without warning. "Ya gotta help me, Dod!" Fred said excitedly. "We're on a silo job, and I need your help bad!"

"Well," I replied, concerned, "it's nearly freezing out now. Have your plant add about two pounds of Calcium Chloride to the mix for each sack of cement. That will cut the setting time *and* the curing time in half—give you higher early strength. In addition . . ."

"But, Dod," Fred broke in, "that isn't what I need! I . . ."

"It is *too* what you need for cold-weather concreting!" I interrupted, getting excited myself now. "As I explained the other day, even in warm weather, with Calcium Chloride added, concrete develops twice the strength in 24 hours. At today's temperature, you'll get three times the strength . . . forms can be pulled faster, there's less danger of breakage . . ."

"Hey!" Fred's shout nearly cracked my ear drum. "What I want to ask ya, will you run over to Marie's and have 'em put a pot of coffee on to go. It's colder'n blazes out here, and we're froze—Marie's got no phone, ya know. Besides," he added, sounding hurt, "I made 'em use Calcium Chloride from the very start . . ."

—L. D. Dodson

P.S. For better concrete, use Wyandotte Calcium Chloride summer *and* winter—in flake form, or the new, more concentrated pellets. Write for folder, "How To Make Better Concrete Products and Ready-Mix." *Wyandotte Chemicals Corp., Wyandotte, Mich. Offices in principal cities.*

Wyandotte CHEMICALS
MICHIGAN ALKALI DIVISION
HEADQUARTERS FOR CALCIUM CHLORIDE

NEW LITERATURE

TENSIONING UNITS—A folder illustrating a new positive wedge anchorage developed for Stressteel bars for use in prestressed concrete construction may be obtained by writing Truesson Steel Division, *Republic Steel Corporation*, Youngstown 1, Ohio.

FLEXICORE—A 16-page booklet entitled "Schools with Flexicore", illustrates 27 schools built with precast concrete floors and roofs. A copy may be obtained by writing *The Flexicore Company, Inc.*, 1932 East Monument Avenue, Dayton 1, Ohio.

AUTOMATIC BATCHING—A new folder describes the Helco-Matic Batchmaster, an electronic punch-card batching system, for automatic batching. A copy may be obtained by writing *The Heltzel Steel Form & Iron Company*, Warren, Ohio.

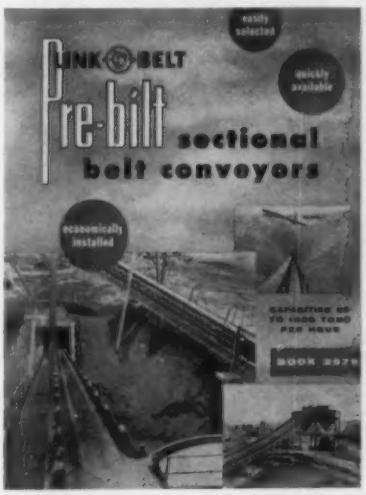
INSIDE TELEPHONES—A booklet entitled "10 Ways To Cut Costs With Inside Telephones", tells how ten different organizations, each in a different line of business, are saving money with P-A-X, the privately-owned, rent-free dial telephone system used exclusively for inside calls. A copy may be obtained by writing *Automatic Electric Sales Corporation*, 1033 West Van Buren Street, Chicago 7, Illinois.

TRANSIT MIXERS—A copy of Bulletin 256 describing Westinghouse transit mixers may be obtained by writing Westinghouse Transit Mixer Division, *LeTourneau Westinghouse Company*, Indianapolis, Indiana.

SCALE INDICATOR—Bulletin 7202 describes the Honeywell Tel-O-Set vertical scale indicator. Up to date information on the Tel-O-Set recorders and controllers is also included. These miniature instruments are used to measure and control process variables such as temperature, pressure, flow and liquid level. A copy may be obtained by writing *Minneapolis-Honeywell Regulator Company*, Industrial Division, Wayne and Windrim Avenues, Philadelphia 44, Pennsylvania.

CONCRETE EQUIPMENT — Concrete vibrators, portable concrete grinders, vibrating screeds, and rotary trowels are illustrated in Stow's 16 page catalog, No. 560. This catalog gives complete information and specifications on Stow's complete line of gasoline and universal electric vibrators. Also shown are Stow's new portable concrete grinders along with a list of accessories and attachments. A copy may be obtained by writing *Stow Manufacturing Company*, 276 Shear Street, Binghamton, New York.

SECTIONAL BELT CONVEYORS—Pre-Bilt sectional belt conveyors in standardized, pre-engineered units with



capacities ranging up to 1,500 tons per hour are described in a new Link-Belt booklet No. 2579. A copy may be obtained by writing *Link-Belt Company*, Dept. PR, 307 North Michigan Avenue, Chicago 1, Illinois.

CRAWLER TRACTOR—A 12-page booklet entitled "The Crawler. . . Backbone of Construction" graphically illustrates how and where 30 to 60 hp. TerraTrac tractors fit in the construction picture. Among the illustrations in the booklet are pictures of TerraTrac's complete line for 1956. A copy may be obtained by writing *American Tractor Corporation*, Churubusco (Ft. Wayne), Indiana.

TRUCK MIXER—An illustrated 15-page bulletin takes the reader on a round-trip tour of a Hi-Up truck mixer. A copy of Bulletin No. 1260-B1A-P may be obtained by writing *Worthington Corporation*, Advertising & Sales Promotion Department, Harrison, New Jersey.

PERMANENT CONVEYORS—A brochure entitled "Don't Do It Your-

self" tells how to solve your conveyor problems with the help of Barber-Greene conveyors. A copy of the brochure may be obtained by writing *Barber-Greene Company*, 400 North Highland Avenue, Aurora, Illinois.

PRECASTER—A series of sheets describes the PreCaster and tells of the various products which can be manufactured with the machine. A copy may be obtained by writing *PreCaster, Inc.*, 5217 Beech Street, Cincinnati 17, Ohio.

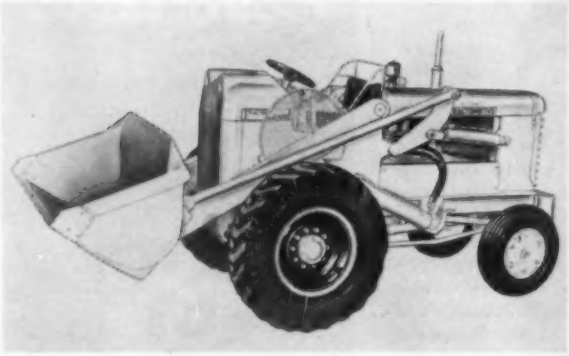
MASONRY UNITS—A 24-page booklet describes Waylite masonry units, a modern lightweight material for walls and floors. A copy may be obtained by writing *The Waylite Company*, 20 North Wacker Drive, Chicago 6, Illinois.

PORTABLE BATCHING PLANTS—Information valuable to producers of ready-mixed concrete and concrete products is contained in the new Blaw-Knox aggregate and cement portable batching plants bulletin. The 41-page illustrated booklet covers portable bulk cement plants, portable aggregate plants, and portable one-stop plants. Features, capacities, and dimensional data are given on each type of plant. A check list in the back of the bulletin itemizes points for consideration before buying a plant, enabling the contractor to order the plant best suited to his requirements. A copy of Bulletin 2488 may be obtained by writing *Blaw-Knox Company*, Construction Equipment Division, Mattoon, Illinois.

BELT CONVEYOR IDLER — The Link-Belt Series 50 ball bearing belt conveyor idler is described and pictured in Folder 2516. The units are available in two types — greaseable and factory sealed — for seven belt widths ranging from 14 to 36 inches. A copy of Folder 2516 may be obtained by writing *Link-Belt Company*, Dept. PR, 307 North Michigan Avenue, Chicago 1, Illinois.

FORM LUBRICANT — A bulletin describes a concrete form lubricant called Alox 436 which is used to prevent sticking of concrete to the metal forms in the manufacture of concrete pipe and other cast objects. A copy may be obtained by writing *Alox Corporation*, 3961 Buffalo Avenue, Niagara Falls, New York.

EQUIPMENT & MATERIALS



Front End Loader

AT its normal carrying height of 3 feet, this 1⅛-cubic yard Tracto-Loader can be tipped back to an angle of 41 degrees, enabling heaped loads to be carried without spillage. At ground level, the bucket can be tipped back 22 degrees. Overall length of the machine with the bucket in the carrying position is 15 feet 4 inches. In this position the machine can turn in a radius of 12 feet 3 inches. *Tractomotive Corporation*, Deerfield, Illinois.

Distribution Box

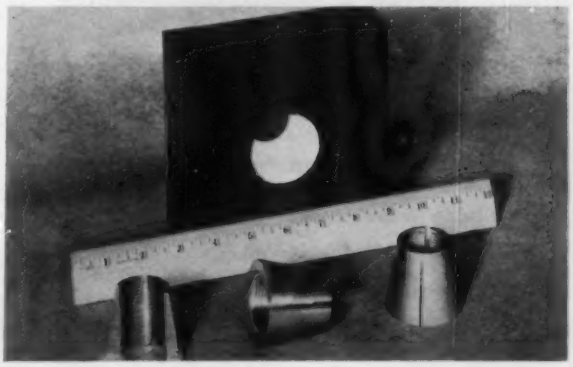
A CYLINDRICAL distribution box for which molds are now available accommodates up to five outlets. The unit eliminates lifting and is said to provide excellent strength for its weight (150 pounds). It has an outside diameter of 22 inches and a height of 17 inches. *R. L. Spillman Company*, 1583 South High Street, Columbus, Ohio.

Electric Turn Table

A NEW electric turntable turns kiln cars or racks quickly (quarter-turns in just 3 seconds) with push button control. Standard models 72 inches in diameter are operated by a 2-horsepower gearhead motor equipped with a magnetic brake. The same manufacturer also supplies portable and manually operated turntables. *The Manufacturers Equipment Company*, Dayton 4, Ohio.

Prestressing Wedges

ECONOMY and simplicity are said to be the features of these wedge tensioning units for use in prestressed concrete. No treading is required on the bar for final anchorage or for jacking purposes, and yet the final anchorage is said to be positive as can be obtained with treaded ends. Truscon Steel Division, *Republic Steel Corporation*, Youngstown 1, Ohio.



COMMENT
from the BUTLER ENGINEER

Of Meat-loaf, Bourbon and Automatic Firsts

A bigger "whew" than ever this year after riding the whirling carrousels of the

A. E. D.
Ready Mixed Concrete meeting
National Concrete Masonry and the
National Sand and Gravel conventions.

Wonderful to see our old friends and meet so many new ones. I am however, coining a new name for the festivities — the "meat-loaf-and-bourbon-circuit".

Your Butler Engineer came back from them all with two more pieces of luggage than he took . . . a bag under each eye.

•

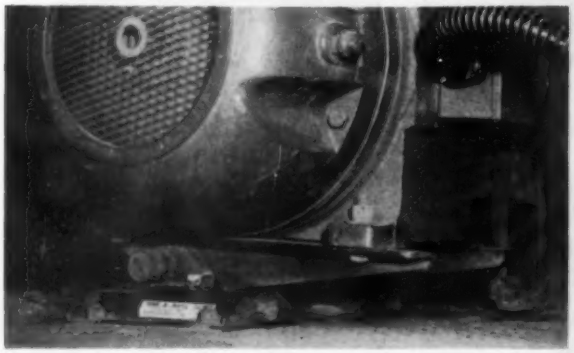
Terrifically successful though—every one of 'em. And I'm tickled a rich, rosy pink at the reception given our exhibits. We showed automatic batching equipment — all hooked up and working.

Mighty, mighty interesting what has happened in the concrete batching field. Only a short time ago when we processed orders for batchers it was assumed that unless otherwise marked, they were to be manually controlled. Today it's the other way 'round. Orders are assumed to be for *automatic* batchers unless definitely marked "MANUAL". And these are as scarce as Model T Fords. About four years ago the Butler organization took a good, long look deep into our pet crystal ball. In it we saw the words, "Automation is coming! Get ready". The good old c. b. never fails. Result? Butler was in the field first with the best — from one man operated Roadbuilders Plants to punched-card controls for the Ready Mixed Industry.

Stay healthy,

The Butler Engineer

BUTLER BIN COMPANY
WAUKESHA, WISCONSIN

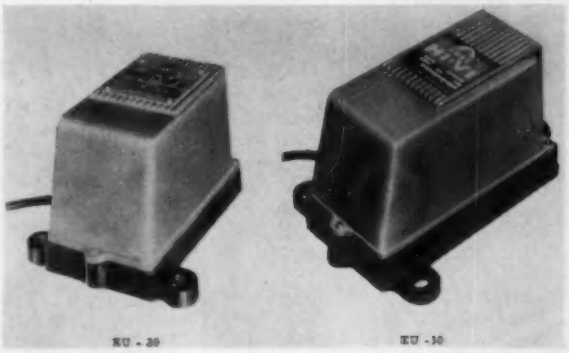


Motor Base

THIS motor base requires no regular maintenance for proper drive belt tension. Called the No. 500 Tens-A-Matic, the base automatically takes up belt stretch and automatically absorbs starting loads. When belts need replacing the motor is just tilted forward and blocked for this operation. The base eliminates motor or belt realigning, as it adjusts the new belts to proper tension automatically. *Murray Equipment Company, Inc.*, 11350 Schaefer Highway, Detroit 27, Michigan.

Magnetic Vibrator

A NEW type of unit vibrator combines a powerful magnet with an electro-magnet operating on an ordinary AC circuit. According to the manufacturer it transmits a unique rhythmic action to bins, hoppers or chutes to assure free, uniform flow at all times. Its action is said to prevent sticking, arching or bridging of materials by imparting a pulsating direction thrust. *Eriez Manufacturing Company*, Erie 6, Pennsylvania.

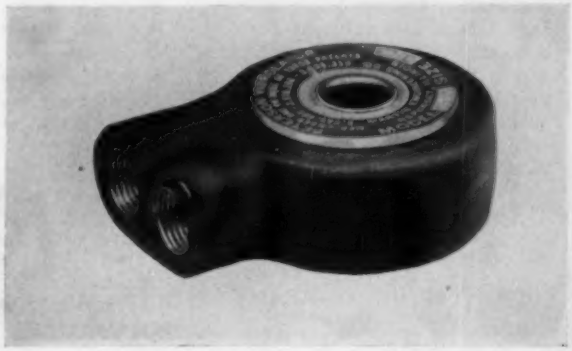


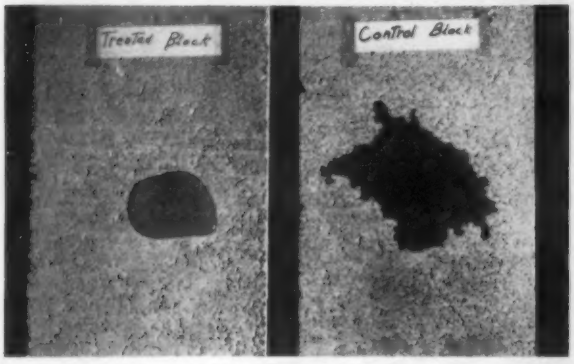
Block Cart

A NEW block cart, designed primarily for use on job sites, incorporates a simplified hydraulic lift system with automatic tilt back, and forks that can be adjusted laterally. The full-pallet model carries pallets up to 32 by 32 inches and has a capacity of 1500 pounds. A half-pallet model, which has a capacity of 1000 pounds, is also available. *American Road Equipment Company*, Omaha, Nebraska.

Mechanical Vibrator

WEIGHING only 4 ounces, this bantam-size vibrator, the Vibrolator SAH-10, is said to be the lightest full-powered mechanical vibrator available. It operates on steam or air and its frequency of vibration is variable from zero to more than 50,000 cycles per minute. Operating pressure may vary from 5 to 150 pounds per square inch. *Martin Engineering Company*, Neponset, Illinois.





Moisture Proofing Additive

ACCORDING to the manufacturer, the addition of only 2- to 4-per cent of Losorb, a moisture-proofing additive, permanently decreases by about 50 per cent the permeability of concrete block, mortar, plaster, stucco and concrete. It also is said to minimize crack frequency, make the mix more plastic and easier working, to act as a lubricant in molding, minimize shrinkage in curing, and to prevent stucco from drying and cracking before the concrete base cures thoroughly. *Pennsylvania Industrial Chemical Corporation*, Clairton, Pennsylvania.

Electric Vibrator

A NEW feature on the Cleveland line of electric bin vibrators allows the force of vibration to be varied without changing weights. This feature permits a user to adjust vibration to suit the job in a matter of minutes. Each end of the vibrator is equipped with two interlocking eccentric weights. The weights may be closed into a semi-circle, giving maximum force, or opened up into a three quarter circle for minimum vibration. *The Cleveland Vibrator Company*, 2828 Clinton Avenue, Cleveland 13, Ohio.

Improved Microphone

THE built-in transistor amplifier, a feature of this dynamic microphone for mobile 2-way radio, is said to provide clearer, crisper voice reproduction than conventional mobile microphones. The companion dynamic speaker-microphone, (also shown in the picture) functions as a speaker when not being used as a microphone. *Motorola Communications & Electronics, Inc.*, 4501 West Augusta Blvd., Chicago 51, Illinois.

Fractures Green Units

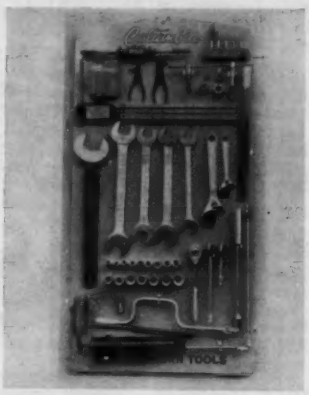
A NEW machine, available through franchise agreements, has been specially designed for the purpose of molding and vibrating solid concrete units fracturing them immediately to obtain natural textured faces. Standard production consists of units measuring 1½ by 24 and 3½ by 24 inches, but 5½-inch sill caps and 10½-inch step plates can also be produced by simple conversion. *The Matson Company*, 510-16 N. First Street, Olean, New York.

Compression Tester

A SPHERICALLY-seated upper platen which conforms to A. S. T. M. Specification C 140-55 is the major feature of this new compression tester. With a capacity of 200 tons ram pressure, it will handle all concrete masonry units up to and including 12- by 12- by 18-inch, and with an extra spherically seated upper platen, it will handle 6- by 12-inch cylinders. The upper platen assemblies are quickly interchangeable. *Forney's Incorporated*, 209 Elm Street, New Castle, Pennsylvania.

Tool Rack

THIS complete tool rack contains all the specially designed tools needed for ordinary adjustment and maintenance of Columbia concrete block machinery. Included in the rack are specially made shoe gauges, pallet holder gauges, a set of special drills and taps, socket and end wrenches and lock-wring pliers. The set is assembled on a handy wall panel of heavy plywood which can be hung at a convenient spot in the shop. For additional information write *Columbia Machine*, Vancouver, Washington.



Tilting Mast

FUTURE production models of the pictured 3-wheel fork lift unit can be equipped with an optional double acting hydraulic valve that enables an operator to tilt the mast and raise loads with one hand. With this hydraulic lift attachment the mast can be tilted 10 degrees toward the rear to assure better load balance, or 2 degrees forward to aid in picking-up or releasing a load. *Kwik-Mix Company*, Port Washington, Washington.

Air Meter

THE air meter pictured here gives readings of the air content of concrete to a fraction of a per cent from 0 to 22 per cent. The apparatus weighs only 12 pounds and only 4 ounces of water is required to operate it. A field check device is an integral part of the meter. *Soiltest, Incorporated*, 4711 West North Avenue, Chicago 39, Illinois.

Reading for Profit

All of the following books are available from Concrete Publishing Corp., 400 West Madison Street, Chicago 6, Ill. Prices are for cash with order and include postage.

Good Books for Concrete Men

MANUFACTURE OF CONCRETE MASONRY UNITS. By William Grant. Published 1952. 184 pages, 19 chapters, 20 charts, 18 tables. Complete operating manual of up-to-the-minute practice showing how to produce top quality concrete block at the lowest possible cost. Rated by block producers everywhere as the best book on the subject ever published. *PRICE* $4.00

CONCRETE PRODUCTS AND CAST STONE. By H. L. Childe. 272 pages, 252 illustrations. Revised 1949. Details the manufacture of precast concrete, concrete products and cast stone. Full information on foamed slag, wood-wool, consolidation by vibration and other manufacturing processes and materials. *PRICE* $3.15

MOULDS FOR CAST STONE AND PRECAST CONCRETE. By F. Burren and G. R. Gregory. 96 pages. Information on wood and plaster mold making so prepared that a novice without previous experience can make good, inexpensive molds. Large, easy-to-follow drawings with concise explanatory instructions are based on actual molds used by experienced mold makers. *PRICE* $1.60

BUILDING ESTIMATOR'S REFERENCE BOOK. By Frank R. Walker. The new Twelfth Edition, revised and rewritten. 1,780 pages containing the latest estimating and cost data on everything that goes into building construction from foundation to the finishing coat of paint. Can be used in any locality, regardless of local prices or wage scales. Included free is the new Vest Pocket Estimator, a separate book of 220 pages of up-to-the-minute estimating and cost data in condensed tabular form. *PRICE* $12.00

DESIGN AND CONSTRUCTION OF FORMWORK FOR CONCRETE STRUCTURES. By A. E. Wynn. Revised 1951. 312 pages, 229 illustrations, 9 folders, 11 design tables. Complete designs for formwork for every type of plain and reinforced concrete structure, from simple footings to arch bridges, with tables from which the sizes and quantities of timber required for any type or size of structure can be seen at a glance. *PRICE* $6.15

FORMS AND CENTERING. By A. B. MacMillan, chief engineer, Aberthaw Construction Co. 158 pages, cloth binding. Gives general requirements of form construction, construction principles and answers contractors' form problems by means of detailed drawings and descriptions of forms for dams, retaining walls, circular bins, tanks, culverts, sewers, buildings, bridges, roads and miscellaneous structures. *PRICE* $2.00

CONCRETE CONSTRUCTION MADE EASY. By Leslie Turner and Albert Lakeman. Reprinted 1948. 118 pages, 69 illustrations, 16 tables. A practical book that solves problems in design and erection of any type concrete structure. Full designs with tables and all necessary information for building foundations, walls, columns, floors, roofs, staircases, beams, water tanks, retaining walls, lintels, formwork, saw-tooth roofs, etc. Written clearly and plainly. *PRICE* $2.10

ELEMENTARY GUIDE TO REINFORCED CONCRETE. By Albert Lakeman. Revised 1950. 88 pages, 79 illustrations. Clarifies principles governing design of reinforced concrete for the reader who has no previous knowledge of the subject. Simple explanations are illustrated with clearly drawn diagrams that make the text readily understandable for the beginner. *PRICE* $1.60

REINFORCED CONCRETE DESIGNER'S HANDBOOK. By Chas. E. Reynolds. Revised 1951. 344 pages, 69 tables, 40 illustrations, 106 examples. A standard work of design data for everyday use. Has large, easily read design tables that cover every type of reinforced concrete structure—with fully worked examples, short cuts and simplified methods proved in practice and essential for rapid solutions of problems. *PRICE* $5.20

PRESTRESSED CONCRETE. By Kurt Billig. Published 1953. 470 pages, 119 graphs, tables and drawings, 31 illustrations. The first of three parts deals with general data and fundamentals, the second with the design of prestressed structures, the third with design problems and a number of numerical examples. Each chapter is followed by an extensive bibliography. Included is Dr. Billig's proposed Code of Practice for prestressed concrete. *PRICE* $9.00

PRESTRESSED CONCRETE STRUCTURES. By August E. Komendant. Published 1952. 261 pages, 124 graphs, drawings and tables, 34 illustrations. A comprehensive discussion of prestressed concrete in a brief and simple form for the use of men in the field as well as those engaged in research. Covers general considerations; physical properties of materials; changes of forces and stresses due to plastic flow and shrinkage; and representative prestressed structures. *PRICE* $6.00

PRESTRESSED CONCRETE. By Gustave Magnel. Revised 1954. 345 pages, 328 illustrations. Contains both the theories of prestressing and examples of its use. Chapter subjects include: the principle of prestressed concrete; methods of prestressing; statically determinate beams; continuous beams; tests; creep of steel and concrete; buckling during prestressing; effect on prestress of time and superimposed load; permissible stresses; applications of prestressed concrete; and prestressed precast concrete. *PRICE* $8.00

PRINCIPLES AND PRACTICES OF PRESTRESSED CONCRETE. By P. W. Abeles, D. Sc. (Vienna) and member Institute of Structural Engineers. First American edition, with all notations adapted to the American standard. Textbook of 112 pages which discusses thoroughly the elementary principles of prestressed concrete as well as its applications in practice. *PRICE* $3.75

DESIGN OF PRESTRESSED CONCRETE STRUCTURES. By T. Y. Lin. New 1955. 456 pages. 242 illustrations. Comprehensive coverage of all phases of prestressed concrete structures, emphasizing American methods and conditions. Formulas, tables and graphical methods are so introduced that both preliminary and final designs can be made with ease. Costs of prestressing are also considered and prestressed lift slabs and pretensioning products are described. *PRICE* $11.50

SIMPLIFIED MASONRY PLANNING AND BUILDING. By J. Ralph Dalzell. New 1955. 376 pages. 182 illustrations. Practical, step-by-step guidance for planning and building all common types of concrete, concrete block, stucco and similar masonry structures. Includes basic information on cement, concrete and mortar. *PRICE* $5.00

CONCRETE SURFACE FINISHES, RENDERING AND TERRAZZO. By W. S. Gray and H. L. Childe. Reprinted 1948. 124 pages, 132 illustrations. Detailed descriptions of every practical method of finishing concrete and improving the appearance of old and new concrete structures. *PRICE* $3.10

THE TECHNOLOGY OF CEMENT AND CONCRETE. By Robert F. Blanks and Henry L. Kennedy. New 1955. 422 pages. 155 illustrations, charts, tables and graphs. In logical order and clear, simple language it covers the known facts about the materials used in concrete and their concrete-making qualities. Main emphasis is on portland cement and aggregates, with a special effort to include data on which information is not readily available elsewhere. *PRICE* $11.00

CLASSIFIED ADVERTISING RATE: $10.00 per column inch.

Closing date for classified advertising copy is 15th of the preceding month.

PRICED FOR QUICK SALE

One Besser Multi-Mold with 4 attachments for manhole reducer blocks, 48" to 24". One pneumatic "Buster" block splitter for splitting the popular split block veneer.

NEFF CONCRETE PRODUCTS CO.

711 Section St. Danville, Ill.

WANTED URGENTLY

Dunbrik machine, pallets and racks. Condition no objection. Extra rack also required.

NATIONAL MASONRY CO., LTD.

Rexdale P. O. Ontario, Canada

SITUATION WANTED

Stearns Service Engineer, three and one-half years experience, desires position in block plant. Willing to work, small amount of capital available. College education, married, veteran, 28 years old. If interested contact:

FOREST L. HAYS

314 Plane St. Middletown, Pa.
Phone: Whitney 4-3850

FOR SALE

One like new Barber-Greene 24" x 35" Model #363 portable belt conveyor. 5 Hp., 1,800 Rpm., 3-60-220 volt ball bearing motor. Sale price $2,000.

MOLASCHI REDI-MIX

1700 Plainfield Rd. Joliet, Ill.

WANTED TO BUY

Crusher rolls, smooth. About 24 x 36 to crush cinders to ⅜" or less. 250 feet of 24" conveyor line. Vibrator screens.

FRACKVILLE BLOCK & SUPPLY CO.

Frackville, Pa. Phone: 256

BLOCK PLANT FOR SALE

Fully equipped with Columbia automatic machine in excellent condition. Can be shown in operation. Will sell with land or lease land.

C. STARKWEATHER & SON, INC.

Beaver Dam, Wisconsin

CEMENT-SPLIT STONE

COLORS

ALKALI AND LIME-PROOF

Special Service to manufacturers of concrete products with a full range of colors that are Guaranteed Permanent — Fadeless. Write today for Prices.

LAMBERT CORPORATION

HOUSTON, TEXAS • ORLANDO, FLA.

FOR SALE

2 — No. 9 Joltcretes.
4 — Turntables.
2 — Air hoists with booms.
65 — Block racks (72-blocks).
6", 8", 10" and 12" mold boxes, attachments and pallets included. Send for itemized list, must be sold in one package.

CONCRETE PRODUCTS CORP.

2700 W. Ewing Ave., Mishawaka, Ind.
Phone: BL-63163

SWAP — SELL — BUY

BLOCK MACHINES—B

Stearns #7 & 9 Joltcretes	$500.00 each
(Joltcrete owners at this price buy one for spare parts.)	
Mold Boxes #7 & 9	150.00 each
2—Stearns Clipper Strippers	250.00 each
1—Monroe 28 Cu. ft. Concrete Mixer	995.00
1—George 28 Cu. ft. Concrete Mixer	750.00
1—Continuous Mixer	150.00
2—Air Offbearers Stearns #7 & 9	250.00 each
1—12 cu. ft. Stearns Mixer	450.00 each
2—Hand Lift Trucks	175.00 each
1—40 Cu. ft. Stearns Skip Loader	1000.00
100—Racks for cored steel pallets	10.00 each

100,000 pressed steel pallets in stock
(Send tracing or sample for quotation).

WRITE • WIRE • PHONE
Mr. McCaughey

Send in list of equipment you need. If we don't have it in stock, we usually know where we can find it at a bargain.

GENERAL ENGINES CO., INC.

Route 130 Therofare, N.J.
Phone: Tilden 5-5400

FOR SALE

USED BLOCK MACHINES

Model 8, 2-block Columbia, two years old.

Model L-5, 3-block Lith-I-Bar, magnetic offbearer, pallet return and 20 Hp. compressor. 18 months old.

Columbia 3-block, 12" high, including pallet return. One year old.

Write or wire

J. H. VAN ALSBURG

Stearns Southwestern Representative

1330 Cerro Gordo Rd.

Santa Fe, N. M.

Here is an opportunity for someone to pick up a COMPLETE PLANT CHEAP. L-3 (2-block) Lith-I-Bar. 18 cu. ft. Stearns mixer. 24' by 16" conveyor. 1,500 pallets. 4", 8", 12" and chimney molds. All 2-phase motorized and in operation until a month ago. Price, $2,000.

Address Box E-5, care CONCRETE
400 W. Madison St., Chicago 6, Ill.

FRANCHISE AVAILABLE

Introducing the DAVIDSON LIFETIME CONCRETE GARBAGE DISPOSAL unit. This revolutionary money maker sells on sight, and when it's in, all the neighbors want one! Completely eliminates garbage men, cans, odors, flies, animal nuisance, etc. Write immediately for details and exclusive franchise.

DAVIDSON
Wilton, New Hampshire

WANTED

4" attachment for Stearns Zipper. Code of pallets Zonal.

ALBERT G. GARNEAU CO.

Box 247 Franklin, N. H.

FOR SALE

Stearns Zipper block machine with 8", 4" and 12" attachments.

2,000 — 8" cast pallets.

2,000 — 4" cast pallets.

1,200 — 12" cast pallets.

Equipment less than 2 years old and in perfect condition. Reason for selling installing larger equipment. Also have Model No. 9 Joltcrete for sale.

IONIA CONCRETE PRODUCTS, INC.

310 Cleveland St., Ionia, Michigan

FOR SALE

Stearns 50-1 automatic 2-blk-machine with magnetic return and off-bearer; 4, 8, 12, and five block molds; 1,500 ¼ x 18 x 18 pallets; 50-60 blk, racks 28 ft. mixer and 28 ft. skip.

Lith-I-Block 2-blk. automatic with off-bearer; 4, 6, 8, 10, 12, & five block attachments.

Go-Corp Junior with 8" mold & 2,100 pallets.

18 ft. CG Desplaines mixer

21 ft. Praschak mixer.

16' belt conveyor.

25' belt conveyor.

MID-ATLANTIC EQUIPMENT RESALE

P. O. Box 273 Front Royal, Va.

CONCRETE'S CLASSIFIED AD SECTION

THE BEST for Buying and Selling Equipment Service and Talents

FOR SALE

Fork and platform power lift trucks, used and guaranteed factory rebuilt.

Erickson Power Lift Trucks, Inc.
St. Anthony Blvd. & University Ave., N. E.
MINNEAPOLIS 18, MINNESOTA
PHONE—STERLING 1-9508

PLAIN PALLET CLEANING

We truck our machine to your plant and supervise entire cleaning and shearing off of pallet residue. No need to shut down as we will keep up with production.

EDWARD A. LOBSTEIN
5363 Seminole Ave. Detroit 13, Mich.
Phone: Walnut 2-1135

INVENTORS AND MACHINE DESIGNERS

National manufacturer is desirous of obtaining manufacturing and sales rights on any equipment or improvements used in concrete products plants on a royalty basis. Patents not essential. Protection guaranteed.

Address: Box E-4, care CONCRETE
400 W. Madison St., Chicago 6, Ill.

E. L. CONWELL & CO.

Established 1894

ENGINEERS • CHEMISTS
INSPECTORS

Cement, Chemical and Physical Laboratories
Tests of Cement, Concrete, Sand,
Steel, Cement Block, Cement Brick.
Chemical Analyses of All Commercial
Products. Complete Technical Supervision
of Central Mixed Concrete Plants.

2024 ARCH ST. • PHILADELPHIA, PA.

COLORS

For Cement and Concrete

COLOR YOUR CONCRETE WITH LANSCO CEMENT COLORS, available in 40 ATTRACTIVE shades. Suitable for all types of concrete products. Write for our new color card, copy of "Suggestions For Using Cement Colors," and for free samples and price list.

Manufactured by:

LANDERS-SEGAL COLOR CO.
76 Delavan St. • Brooklyn 31, N. Y.

USED BLOCK MACHINES

Stearns Zipper—Jefferson, Wisconsin.
Kent Blockmaker—Saginaw, Michigan.
Two-block Van-U-Matic molds, offbearer and steel plain pallets. $1,500.00—Aberdeen, South Dakota.
Two-block Praschak with 4"-8"-10"-12" molds and pallets. $1200.00.
Stearns Clipper—Conoquenessing, Pennsylvania.
Three-block plain pallet Flam machine, reasonable—Chatham, Ont., Canada.
Besser K-12 with mixer, 3000 steel plain pallets and steel racks $2500.00 complete — Cannon Falls, Minnesota.
Two-block plain pallet Multico complete with molds, offbearer, pallets and racks, $500.00 down—Mankato, Minnesota.
Joltcrete No. 9 still operating—Rockford, Ill., Durham, Ont., Canada.
Joltcrete No. 7—Quincy, Ill., Two Harbors, Minn.
Hydro-Korpac—La Porte, Indiana.
Flemings—Lith-I-Blocks—Columbias.
I also have on hand quite a supply of cored pallets, modular and full size, a few used mixers, boilers, conveyors and bucket elevators. Also I list a few plants that want partners with a little cash and lots of experience.

MID-WESTERN CONCRETE EQUIPMENT CO.
Mattoon, Illinois

Concrete Pipe Forms & Vibrators

GEORGE W. HOFFMANN CO.
P.O. BOX 452 SIOUX CITY, IOWA
and
THE VIBRAPIPE EXPORT CO.
50 BROAD ST. NEW YORK, N. Y.

UNUSED ARMY TRUCKS

WE'LL DELIVER TO YOUR MIXER DEALER FOR MOUNTING.

INTERNATIONAL and GMC 6x6's

From Government Storage! Factory-New Condition! Unused and Guaranteed!

Your opportunity to save! 2½-tons, tandem axle, front wheel drive, 10 forward speeds, overdrive, new snow and mud tires. Gives extra power needed for ready-mix operation. Costs LESS, often HALF the price of conventional new trucks! Delivered for your approval or sent directly to mixer dealer for mounting. Painted your fleet colors.

Reconditioned trucks also available.
For Specifications, Prices, Delivery:
Phone Collect: JAckson 5-7841.
Milton Y. Toombs, Jr., Sales Manager

MEMPHIS EQUIPMENT Company.
CONSTRUCTION AND AUTOMOTIVE EQUIPMENT AND PARTS
765 SO. THIRD ST. MEMPHIS, TENNESSEE

Reconditioned FORK LIFTS

SAVE MONEY! GET *NEW GUARANTEE*

Good as new! We, as country's best qualified equipment distributor, guarantee it! 2,000 to 15,000 lb. models with solid or pneumatic tires; any size; lifting height. Clark, Towmotor—Moto Lift, Ross and Hyster.

Write for prices, delivery, information.

MEMPHIS EQUIPMENT Company.
CONSTRUCTION AND AUTOMOTIVE EQUIPMENT AND PARTS
766 SO. THIRD ST. MEMPHIS, TENNESSEE

Free For The Asking!

SMITHKO'S

NEW CEMENT COLOR CARD showing 22 of our industry's strongest, distinctive shades. Our 65 limeproof colors have been the standards of comparison for all cement applications for nearly forty years. Samples, technical brochure and quotations on request.

SMITH CHEMICAL & COLOR CO., INC.
JOHN & JAY STS. BROOKLYN 1, N.Y.

ADVERTISERS IN THIS ISSUE

SEE THE

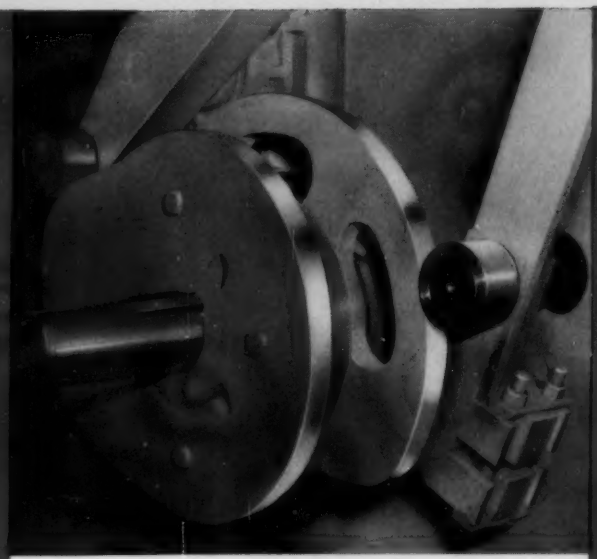
STEARNS BIG 3*

(SERIES 50 BLOCK MACHINES)

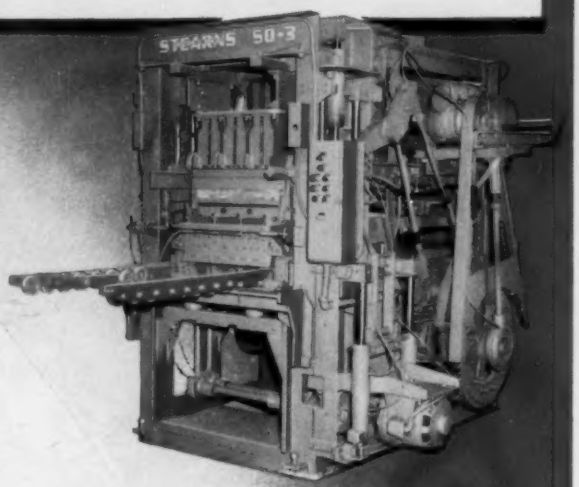
BEFORE YOU DECIDE!

...they're out-performing the field!

MAKE YOUR OWN COMPARISON . . .



DEPENDABLE! FOOLPROOF! CAM AND ROLLER CYCLE!



We invite your comparison to any machine in the Series 50 price class. Compare the positive cam and roller cycle, combined with the smoothest pallet feed and block ejection principle yet conceived. Watch the complete cycle of smooth, continuous operation . . . without the use of temperamental pistons, valves or liquid. Your assurance of uninterrupted production. Compare item for item and pound for pound, and UPPERMOST, compare the QUALITY of the blocks produced . . . your best protection on your investment.

PRICE vs QUALITY Sometimes a bargain is measured by how little you pay . . . sometimes by how much you get. Any one of the Stearns Big 3* Block Machines is a Bigger Bargain by both measures. ASK ANY OWNER! or, let's check the records! Of *all* the Stearns Series 50 block machines manufactured and installed since 1949, only *one* machine is temporarily inactive. Definite proof of their superiority.

We are proud of this enviable record, made possible by customers old and new . . . block manufacturers who know that QUALITY is always a bargain.

Yes, when you compare PRICE *and* QUALITY . . . you will agree,
"You get more when you get a Stearns". . .

* THE BIG 3

Model 50-3 makes three 8" x 8" x 16" or equivalent units per cycle. Maximum size pallet, 5/16" x 18½" x 26".

Model 50-2 makes two 10" x 8" x 16" or equivalent units per cycle. Maximum size pallet, 5/16" x 18½" x 20½".

Model 50-1 makes two 8" x 8" x 16" or equivalent units per cycle. Maximum size pallet, 5/16" x 18½" x 18½".

ALL MODELS EASILY CONVERTED TO MAKE UNITS FROM 4 INCHES TO 12 INCHES IN HEIGHT

ASK ANY OWNER!

STEARNS

MANUFACTURING COMPANY · INC.

ADRIAN • MICHIGAN

COMPLETE CONCRETE PRODUCTS PLANT EQUIPMENT

"THE STANDARD OF PERFORMANCE"

Now - You Can Also Make BATTER Block on Your VIBRAPAC!

Cone has four courses of irregular 7½" high batter block. Except for the base, balance of structure forms a cylinder made of barrel block.

Vibrapac attachments for making first and second courses of batter block cone. Stripper head shown in position above mold.

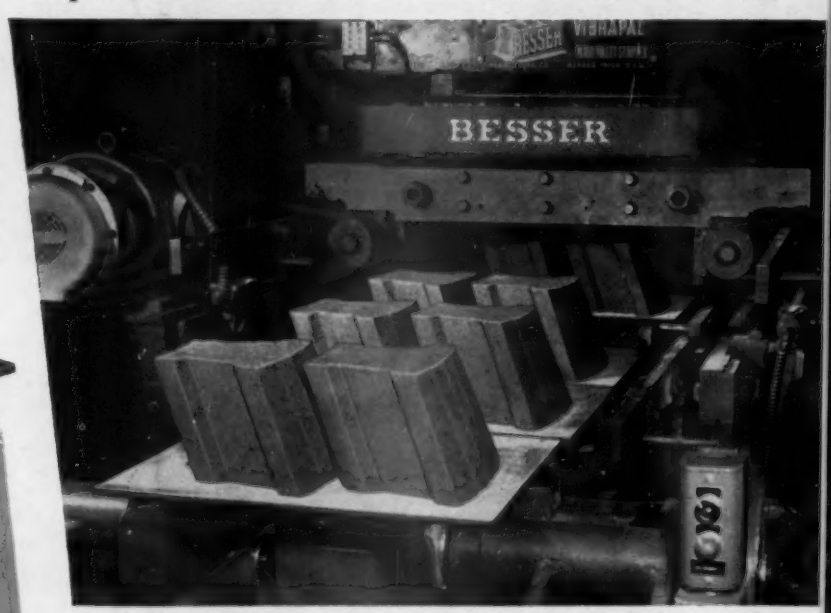
Mold insert and stripper head plungers for making third and fourth courses of batter block cone.

New Source of Revenue for Progressive Block Plants

For the first time in the history of the Concrete Products Industry, you can make odd-shaped batter block, on a production basis, with the same speed as conventional block. The versatility of a Besser Vibrapac — *the world-famous concrete block machine* — makes this possible.

The Besser Vibrapac has always made barrel block for manholes. Now — you can also make the irregular batter block for building the cone. A standard Vibrapac machine, plus Plain Pallets, replaces the extremely slow and laborious old-fashioned method of tamping these irregular units by hand.

In practically every state, concrete block is now standard material for the construction of Catch Basins and Manholes, effecting considerable savings in both labor and materials. Why not cash in on the big demand for barrel and batter block? Let us show you how you can adapt your Vibrapac machine for this new market. Write for Bulletin No. 112.



Close-up view of Besser Vibrapac making two irregular batter block on a Plain Pallet. Note the steady flow of these units. You get the same mass production method as regular block.

A 8564-1PBC

BESSER COMPANY

BOX 127 • ALPENA, MICHIGAN, U. S. A.

Complete Equipment for Concrete Block Plants